

INDIAN SCHOOLS

A Study of
Teacher-Pupil Ratio

R P Singhal



NIEPA



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Dr R.P. Singhal

NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND
ADMINISTRATION



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FOREWORD

Effective management of a class has today assumed great significance particularly in developing countries where class-size is constantly increasing. In India, owing to the adoption of the Policy of educational opportunity for all and special emphasis on the programme of universal elementary education coupled with the mounting pressure of population growth, the enrolment in schools has been expanding. Due to constraint of resources it has not been feasible to provide adequate number of teachers as may be possible in developed countries. Moreover, developed countries are facing the problem of shrinking enrolment and consequently have smaller teacher-pupil ratios in their schools.

In the wake of the debate that is currently going on all over the world about the optimum class-size and teacher-pupil ratio, this book which is based on a research study of Indian Schools done under the auspices of the National Institute of Educational Planning and Administration (NIEPA), makes a vital contribution by focussing that it is the teaching techniques and the quality of teacher that are more important than the class-size for the purpose of achieving the objectives of educational development in the context of a country like India. It pleads for adoption of multiple strategies like school complexes, horizontal and vertical linkages, rapport with the community, larger use of teaching aids, institutional planning and proper monitoring and supervision, etc. to get better results.

The book makes a critical appraisal of the varying norms of teacher-pupil ratios that exist for different stages of school education in the States and Union Territories of the country. It takes note of the allied matters such as job-chart and work-load of teachers, provision of essential facilities in schools, rural-urban disparities, education of the first generation learners and management of incentives for the disadvantaged children. It not only analyses the gaps which are there in the norms prescribed and norms actually followed, it also suggests appropriate remedial measures.

I would like to congratulate Dr R.P. Singhal for this extremely useful work. I am sure it will be of interest to all those who are concerned with the task of educational reconstruction. It will also serve to facilitate the implementation of the new National Policy on Education.

I would like to take this opportunity to thank the Department of Education, Ministry of Human Resource Development, the NCERT, the Indian Institute of Education, Pune and all the States and Union Territories for their cooperation and help in the study.

Satya Bhushan

Director
National Institute of Educational
Planning and Administration

New Delhi
September, 1987

PREFACE

The question of what should be the optimum teacher-pupil ratio for schools in India has been engaging attention of the Government in the recent past. There has been a strong difference of opinion on the subject. According to one view, the teacher-pupil ratio should not be more than 1:20 and increasingly the country should move in the direction of individualised instruction. However, there is another view according to which low teacher-pupil ratio is a luxury for a poor country. What is required, therefore, is adoption of non-conventional approaches so that quality of education is not adversely affected while having a somewhat larger teacher-pupil ratio.

The Public Accounts Committee of the Parliament had expressed in 1982 its serious concern over the varying teacher-pupil ratios in different States and at different stages of school education. It was noted that as per the Fourth All-India Education Survey conducted in 1978, there was teacher-pupil ratio of 1:41 at the primary stage, 1:25 at the middle stage and 1:18 at the secondary stage at all-India level. The teacher-pupil ratio varied considerably from State to State. At primary stage it was as high as 1:59 in Rajasthan and as low as 1:17 in Manipur. There were some States which had a teacher-pupil ratio of 1:50 or more. At the middle stage, the TPR varied from 1:33 in West Bengal to 1:13 in Sikkim. Similarly at the secondary stage, the TPR differed from 1:30 in Bihar to 1:8 in Sikkim and 1:11 in Andhra Pradesh and J & K.

As is known, about 35 per cent of the primary schools in the country are single-teacher schools. In primary schools the teacher is required to teach not only one class but is expected to handle all the classes of the primary school besides attending to other activities such as conducting annual census of the school-going children in the locality, organising an enrolment drive, managing the incentives for the pupils, maintenance of school plant, etc.

In addition to the pressing problem of achieving universal elementary education in different States and UTs there is the problem of promoting equity coupled with the need for raising the quality of school education in the country. The question of teacher-pupil ratio is also closely linked

with and affected by several other factors such as work load and working conditions of teachers, size of the classes, constraints of financial and other resources, remoteness and inaccessibility of the area in which the school is located, typology of the place and above all, diverse linguistic and cultural heritage of the country.

This study was accordingly undertaken at the instance of the Ministry of Education (now Ministry of Human Resource Development), Government of India, to ascertain the empirical situation in the country with regard to the regulations or norms of teacher-pupil ratio as prescribed by the State Governments for primary, middle and secondary stages of school education, to find out the actual position about the implementation of those norms and to make suggestions regarding optimum teacher-pupil ratios for different situations and contexts.

The study has covered 20 States and 1 Union Territory of India by taking one district each from 58 National Sample Survey regions. Investigations have been made from 580 schools of different categories including rural, urban, tribal, hilly and single-teacher schools located in different parts of the country so as to make the sample as representative as possible. Data was collected from the schools as well as State Departments of Education with the help of specially designed tools. A large number of teachers, heads of schools and district education officers were interviewed and their views solicited on the various aspects of the question.

Whereas the data for the States of Maharashtra, Gujarat, Karnataka, Kerala and Tamil Nadu were collected by the Indian Institute of Education, Pune on behalf of NIEPA, the data for the rest of the States and UTs were collected by NIEPA itself.

The study has revealed that not only there are wide variations among the States and UTs in respect of norms of TPRs prescribed by them but there are also wide gaps between the norms prescribed and norms actually followed. There are also large variations in class size and teachers' work load. The practices followed for giving home-assignments, etc. differ considerably. Nearly half the schools covered by the sample, work for less than 220 days in a year. More than half of the primary teachers do not take any interest in the programme of universal elementary education and they do not ensure that all students indentified in the annual census join the school. Nine out of every ten schools meant for tribal children do not even conduct the annual census of the children of the school-going age. A large proportion of schools do not even fully utilise the various incentives provided for SC/ST students, girls and children of other backward communities. Heads of schools do not spend much time on supervision,

guidance to teachers, student services and extension work.

In India, the problem of class-size and optimum TPR is unique because both small classes as well as large classes exist. Nearly 22% of primary schools of the sample have been found with a strength of less than 25 pupils in class I. Another 19% have the class strength of below 40. In class V, nearly 38% schools have class size of less than 25 pupils and another 15% have less than 40 pupils in the class. Even for class IX a few schools have class size of less than 25. On the contrary there are also several schools which have class size of more than 50.

To do away with the wide differences in class-size and TPRs obtaining in different States, national norms have been proposed for provision of teachers for primary, middle and secondary stages in all States. It is high time that national norms should be uniformly adopted throughout the country as early as possible. If necessary, concurrency provisions may be invoked so that scarce resources of the country are optimally utilised and quality of education improves. All schools must work at least for 220 days in a year and all teachers must put in at least the required minimum number of periods per week. It is also imperative that henceforward TPRs are based on enrolment as well as average attendance of pupils rather than on enrolment alone which is the practice with most States and must be checked forthwith.

Teacher effectiveness is more a result of innovative methods of teaching-learning, use of teaching aids and new technology than of class-size. This is the opinion expressed by many teachers themselves. Various strategies have, therefore, been suggested in the study for optimising the teacher-pupil ratio. These strategies would help to achieve UEE at a faster pace, reduce drop out rate, improve pupil attainment and enable teachers to perform better. They would also contribute significantly to the implementation of the National Policy on Education adopted by the Government of India in May 1986.

I am grateful to NIEPA, in particular to Professor Moonis Raza, former Director and Professor Satya Bhushan, present Director for giving me an opportunity to take up this study and for all their guidance and support in conducting it.

My thanks are also due to the Ministry of Human Resource Development, Government of India and NCERT for their advice in designing of the study and to the Indian Institute of Education, Pune, for associating with the study for purpose of collection of data from a few States. In this connection I would like to express my particular thanks to Prof. S.B. Gogte of IIE, Pune, Prof. P.N. Dave and Prof. A.B.L. Srivastava

of NCERT and Dr N.M. Bhagia and Dr J.B.G. Tilak of NIEPA who were members of the Task Force and to Dr R.S. Sharma who acted as Convenor of the Task Force in its early phase.

I should also like to thank all the State Governments, DEOs, headmasters, teachers and all others who were good enough to extend their cooperation in the Study.

I owe my thanks to Shri B.K. Panda, Project Assistant (now STA) who continuously rendered his help and assistance to me in the study and to Smt. Rashmi Diwan, Shri C.R.K. Murthy and Shri Chaman Singh who served as Project Assistants for collection of data etc. in the early part of the study. My thanks are also due to Shri B. Selvaraj, Publication Officer and Shri M.M. Ajwani, Asstt. Publication Officer, for looking after the publication, Shri Murali Dhar, former Programmer, NIEPA for data processing help, to Shri P.N. Tyagi, STA for cartographic assistance, to Shri P. Mani, my Private Secretary for typing out the Manuscript and Shri Hakim Singh and others of EDPR Unit, NIEPA for bringing out its final copy.

New Delhi
September, 1987

R.P. Singhal

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Chapter I

THE CLASS-SIZE DEBATE

WHAT is an optimum teacher pupil ratio for a school, is a question which has been bothering both developed and developing countries of the world for several years. While teachers and parents normally want smaller classes so that the child may get individualised attention, the educational authorities generally favour larger classes so that the cost per pupil is reduced.

Is the Smaller the Better?

Smith & Glass (1980) who examined the question of class size and its relation to attitudes and instructional practices found that:

Class size affects the quality of the classroom environment. In a smaller class there are more opportunities to adapt learning programmes to the needs of individuals. Many teachers avail themselves of these opportunities; others would need training to do so. Chances are good that the climate is friendlier and more conducive to learning. Students are more directly and personally involved in learning.

Class size affects pupils' attitudes, either as a function of better performance or contributing to it. In smaller classes, pupils have more interest in learning. Perhaps there is less distraction. There seems to be less apathy, friction, frustration.

Class size affects teachers. In smaller classes their morale is better; they like their pupils better, have time to plan, diversify; are more satisfied with their performance. Does this mean that class size is merely a selfish, political issue for teachers? Or is the happier teacher the one who performs better? This we cannot unravel, except to cite the other evidence—that the smaller the class is, the greater is the effect on the instructional process, on pupil affect, and on achievement.

Glass V. Gene et al (1982) give an extensive meta-analysis of the

researches on Class-size and its relationship to achievement, carried out from late nineteenth century to the present times. According to them Rice (1902) observed no strong relationship between class size and attainment; Whitney & Willey (1932) stated that nearly 80 per cent of the comparisons of small and large classes favoured the small classes. They had kept, in their measurement, the factor of class size as varying and all other variables as constant. Simon Haskell (1964) demonstrated that at the secondary school level lecture classes could be doubled or tripled in size without loss of effectiveness. A few other researchers including the Plowden Report (1967) also came out with a finding that older students learned as well as in large lecture halls as in small classes. Glass V. Gene and his associates, however, feel that this was due to the fact that the secondary schools at that time were standing on the threshold of rapid and huge increases in school registers as the population bulge of the post-war baby-boom lumbered toward adolescence.

The Plowden Report relied more on contribution of the home than of the school to learning. But as Glass et al have observed, these findings were countered by Michael Rutter (1979) and others who said, "smaller was better, and the smallest possible was best of all". Glass and his colleagues have themselves surveyed 77 empirical research studies of the relationship between class size and learning over 80 years (1900-1979) and recorded 725 comparisons of smaller and larger classes. They have found that 435 or 60 per cent of them favoured the smaller class. "Small classes were very much better than large classes; large classes were hardly any better than very large classes", they have said. They have observed that:

- (1) In 111 of 160 instances (69 per cent) in which classes of approximately 18 and 28 pupils were compared, the smaller classes achieved at a higher level than the larger classes.
- (2) In 45 of 46 comparisons (98 per cent) of class sizes of about 2 and 28 pupils, the smaller class showed a higher level of achievement than the larger class.
- (3) At the other extreme, the odds were roughly 50-50 that a class of over 30 pupils would show achievement superior to a class of over 60 pupils.

The Controversy

There is, however, a strong criticism of the findings of Glass et al as

they have themselves admitted. The Educational Research Service, America (1980) has stated that the research findings on the effects of class size on pupil achievement across all grade levels are contradictory and inconclusive. While Bruce Choppin of the National Foundation for Educational Research in England and Wales published a review of the technical reports on class size in Educational Research — June 1980 issue, by saying that those who have campaigned for the abolition of oversized classes now have the research evidence (Glass et al) to back them up, Dean T. Jamison (1982) of World Bank holds a different view. Jamison says:

Small classes improve achievement only slightly and scarcely at all in what for most school districts is the realm of economically feasible changes. Indeed, 40 per cent of the class size comparisons that were examined failed to show an advantage for the smaller class. The search for ways to improve school quality must, then, for reasons of efficacy as well as cost, go beyond improving the student-to-teacher ratios.

Jamison has really addressed the question of how best to choose between reducing the class size and adopting other alternatives that may be available for improving school quality. Examining the frequency distributions of class size for 97 countries around the world, he has found that countries tend to have larger class sizes for elementary grades than for secondary, and this fact combines with a weaker class size effect at the elementary level to suggest that reducing class size will generally have greater impact at the secondary level. Still, even at the secondary level, the effect is relatively weak. It was also observed (Jamison et al, 1976) that particularly in low-income countries, one must calculate how much increase in class size there must be in order to compensate in cost for the introduction of an alternative innovation designed to improve quality. The amount of time required per child per year depends on average class size, average number of days per school year, and average number of hours per school day. According to him, clearly, increasing the amount of school time is a plausible alternative for improving quality. Quoting an experiment invoking use of radio for elementary mathematics instruction in Nicaragua, he says the impact of radio on achievement is far more dramatic at least at the first-grade level (though radio might cost almost twice as much as work-books). Referring to another experiment of computer-assisted instruction for compensatory education in Los Angeles, he says that such an instruction in reading and language arts is ineffective in improving the children's performance in these subjects but in Mathematics, on the

other hand, the results are impressive. He concludes by saying that "in particular, provision of instructional media (like textbooks or radio) would, I predict, usually be far more cost-effective in low-income countries than would reducing class size. In high income countries, the call will tend to be much closer, although, if the cost of, say, computer assisted instruction continues to fall relative to teacher salaries, the decision will increasingly tilt away from class size reductions."

Developed vs. Developing Countries

Table 1.1 gives teacher-pupil ratios of different groups of countries from 1965 through 1982 at the first level of education:

Table No. 1.1

Teacher-Pupil Ratios for Education at First Level (A World View)

Continents, Major Areas and Groups of Countries	Years	Frequency distribution according to Pupil-Teacher Ratio					
		Below					Over
		21	21-30	31-40	41-50	51-60	60
World Total	1965	18	64	64	28	10	6
	1970	23	77	51	29	7	5
	1975	38	69	50	22	10	5
	1980	51	64	42	23	10	4
	1981	53	64	39	23	11	4
	1982	56	62	43	20	10	4
Africa	1965	1	4	23	16	5	5
	1970	1	6	20	19	3	5
	1975	1	7	20	15	6	5
	1980	3	7	18	14	8	4
	1981	3	8	17	14	8	4
	1982	3	7	21	11	8	4
America	1965	3	19	18	6	2	—
	1970	4	21	17	4	2	—
	1975	7	21	15	4	1	—
	1980	15	17	13	3	—	—
	1981	16	15	14	3	—	—
	1982	16	18	12	3	—	—

Asia	1965	3	12	12	6	3	1
	1970	4	18	9	6	2	—
	1975	7	16	11	3	3	—
	1980	7	16	9	6	2	—
	1981	8	16	7	6	3	—
	1982	9	16	8	6	2	—
Europe (Inc. USSR)	1965	7	19	7	—	—	—
	1970	11	19	3	—	—	—
	1975	19	13	1	—	—	—
	1980	19	14	—	—	—	—
	1981	19	14	—	—	—	—
	1982	20	13	—	—	—	—
Developed Countries	1965	8	24	7	1	—	—
	1970	12	24	3	1	—	—
	1975	22	16	2	—	—	—
	1980	23	16	1	—	—	—
	1981	24	15	1	—	—	—
	1982	24	15	1	—	—	—
Developing Countries	1965	10	40	57	27	10	6
	1970	11	53	48	28	7	5
	1975	16	53	48	22	10	5
	1980	28	48	41	23	10	4
	1981	29	49	38	23	11	4
	1982	29	49	38	23	11	4
Northern America	1965	1	3	—	—	—	—
	1970	—	4	—	—	—	—
	1975	2	2	—	—	—	—
	1980	3	1	—	—	—	—
	1981	4	0	—	—	—	—
	1982	3	1	—	—	—	—
Latin America	1965	2	16	18	6	2	—
	1970	4	17	17	4	2	—
	1975	5	19	15	4	1	—
	1980	12	16	13	3	—	—
	1981	12	15	14	3	—	—
	1982	13	17	12	3	—	—

Source: Statistical Year Books, 1983, 1984; Unesco, Paris, 1983, 1984.

It will be observed from Table 1.1 that while in 1965 there were 64 countries with a teacher-pupil ratio varying from 31-40 at first level,¹ the number of countries in 1982 for that ratio came down to 43. On the other hand, the number of countries with teacher pupil ratio of lower than 21, increased considerably during this period; whereas in 1965, number of such countries was only 18, it rose to 56 in 1982. But a more closer examination of the table will reveal that the trend is remarkably divergent between developed and developing countries. In 1965 there were 24 developed countries with 21-30 teacher-pupil ratio and 7 countries with 31-40 teacher pupil ratio but the number came down in 1982 to 15 countries with 21-30 teacher-pupil ratio and only 1 country with 31-40 teacher-pupil ratio.

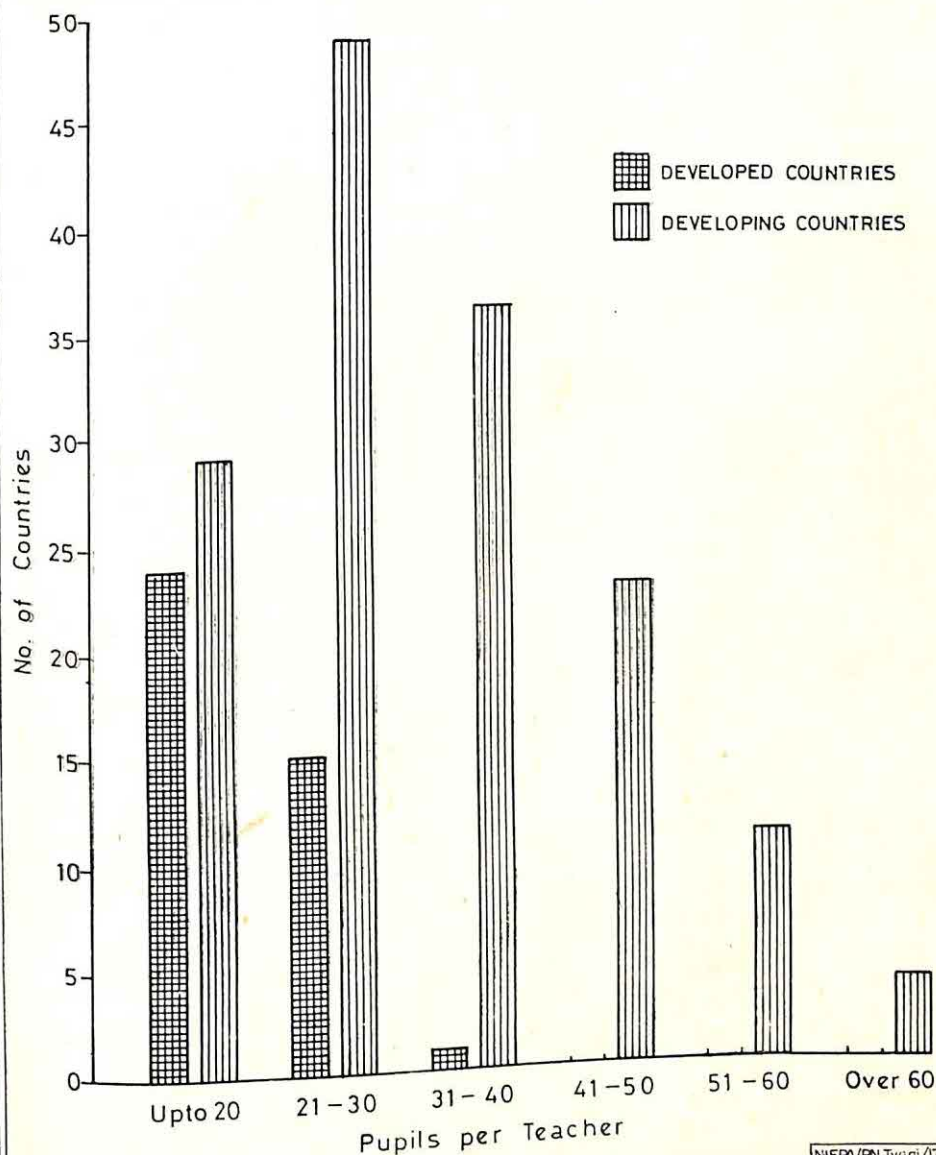
There is no developed country which in 1982 had a teacher-pupil ratio of more than 40. But in the case of developing countries, those having a lower teacher-pupil ratio are only very few, whereas those having a larger teacher-pupil ratio are quite in large numbers. In 1982, there were as many as 38 developing countries (as against only 1 developed country) having a teacher-pupil ratio of 31 to 40; 23 developing countries with teacher-pupil ratio of 41 to 50; 11 with 51-60 and 4 with a teacher-pupil ratio of over 60. And, among these developing countries, Asian and African countries take away a major portion.

The position regarding teacher-pupil ratio at second level of education is not very much different from that which exists at first level of education. This is evident from Table 1.2 which gives teacher-pupil ratios of different groups of countries from 1965 through 1982 at the second level of education.²

1. First level here refers to the level which provides the basic elements of education (e.g. the primary school).

2. Second level here refers to the level of education which is based upon at least four years of previous instruction at first level (e.g. middle school, secondary school, high school).

TEACHER PUPIL RATIOS IN DEVELOPED AND DEVELOPING COUNTRIES (AT FIRST LEVEL) 1982



NIEPA/PN.Tyagi/17086

Fig. 1-1

Table No. 1.2

**Teacher-Pupil Ratios for Education at Second Level
(A World View)**

Continents, Major Areas and Groups of Countries	Years	Frequency distribution according to Pupil-Teacher Ratio				
		Below 11	11-20	21-30	31-40	Over 40
World Total	1965	8	108	62	9	1
	1970	9	111	64	6	—
	1975	11	105	63	13	1
	1980	12	109	57	15	1
	1981	12	106	60	15	1
	1982	12	109	61	11	2
Africa	1965	—	35	16	1	—
	1970	—	30	23	1	—
	1975	1	17	30	5	1
	1980	1	23	22	7	1
	1981	1	19	28	5	1
	1982	—	21	27	4	2
America	1965	4	23	17	2	1
	1970	4	26	17	1	—
	1975	3	30	12	3	—
	1980	3	29	14	2	—
	1981	4	28	14	2	—
	1982	6	27	13	3	—
Asia	1965	2	15	16	4	—
	1970	1	18	15	4	—
	1975	3	18	15	4	—
	1980	3	20	11	6	—
	1981	2	21	10	7	—
	1982	2	24	12	3	—
Europe (Inc. USSR)	1965	2	25	6	—	—
	1970	4	25	4	—	—
	1975	4	27	1	1	—
	1980	5	24	4	—	—

	1981	5	24	3	—	—
	1982	4	24	4	1	—
Developed Countries	1965	2	28	10	—	—
	1970	2	30	5	—	—
	1975	5	31	3	1	—
	1980	5	29	6	0	—
	1981	5	29	5	1	—
	1982	4	29	6	1	—
Developing Countries	1965	6	80	52	9	1
	1970	4	81	59	6	—
	1975	6	74	60	12	1
	1980	7	80	51	15	1
	1981	7	77	55	14	1
	1982	8	80	55	10	2
Northern America	1965	1	2	1	—	—
	1970	1	3	—	—	—
	1975	1	3	—	—	—
	1980	—	4	—	—	—
	1981	1	3	—	—	—
	1982	1	3	—	—	—
Latin America	1965	3	21	16	2	1
	1970	3	23	17	1	—
	1975	2	27	12	3	—
	1980	3	25	14	2	—
	1981	3	25	14	2	—
	1982	5	24	13	3	—

Source: Statistical Year Books, 1983 and 1984, Unesco, Paris, 1983, 1984.

It will be observed from table 1.2 that as against 10 countries in 1965 with teacher-pupil ratio of over 30, there are now 13 countries which have a teacher-pupil ratio of more than 30. Again, 12 out of them are developing countries; 6 of them are African and 3 Asian. The developed countries have by and large a teacher-pupil ratio of lower than 20 at the second level of education.

Position in U.K.

Table 1.3 gives the teacher-pupil ratio from 1965-66 through 1981-82 for different types of schools in the United Kingdom.

Table No. 1.3

**Number of Pupils and Teachers: Pupil/Teacher Ratios by
School Type in United Kingdom**

	1965-66	1970-71	1975-76	1979-80	1980-81	1981-82
United Kingdom	Pupils per teacher					
Public sector Schools						
Nursery	27.0	26.6	22.1	21.6	21.5	21.6
Primary	28.2	27.1	23.8	22.4	22.3	22.3
Secondary	18.0	17.8	16.8	16.4	16.4	16.4
Non-maintained Schools	13.9	14.0	14.1	13.0	13.2	12.5
Special Schools	11.1	10.5	8.7	7.6	7.5	7.4
All Schools	21.9	22.0	19.4	18.3	18.2	18.0
England	Pupils per teacher					
Public sector						
Nursery	24.9	19.1	21.1	19.8	19.7	19.9
Primary	28.2	27.0	24.0	22.7	22.6	22.5
Secondary	18.3	17.9	17.0	16.6	16.6	16.6
Non-maintained Schools	13.8	13.7	13.4	12.7	12.5	12.2
Special Schools	11.2	10.2	8.6	7.6	7.6	7.5
All Schools	21.9	21.4	19.4	18.4	18.2	18.1

Source: Education Statistics for the United Kingdom 1983 Edition; HMSO; London.

It would be seen from Table 1.3 that teacher-pupil ratio for schools in U.K. has consistently fallen from 21.9 in 1965-66 to 18 in 1981-82. This is so for all stages of school education. For nursery classes, the teacher-pupil ratio has come down from 27.0 to 21.6, for primary classes from 28.2 to 22.3 and for secondary classes from 18.0 to 16.4 during the last decade and half. The position in England is almost similar to what obtains in the whole of United Kingdom. The fall in teacher-pupil ratio is primarily due to the fact that enrolment in schools in U.K. has been declining over the years as a result of the slower growth rate in population.

According to a report published in England in 'Education'—the journal of educational management and policy (March 2, 1984 issue), the White

Paper on Public Expenditure which appeared in February 1984 projects a fall in pupil numbers of four per cent in primary and 13 per cent in secondary schools of England between January 1983 and January 1987. The projections of students are based on the Report on Education 99 of the Department of Education and Science, London, which sets out a new approach to forecasting demand. The figures given in Table 1.4 are based on the lower limit of a projected total student demand.

Table No. 1.4

Projected Teacher-Pupil Ratio for Schools of England in 1986-87

Pupils and teacher numbers	In thousands (Except as indicated)			
	Provisional		Projected	
Academic Year	1983-84	1984-85	1985-86	1986-87
Total school population in maintained schools (including special schools)	7560	7399	7258	7132
Pupil numbers:				
Under fives	477	476	468	467
All other Primary	3316	3274	3279	3296
Secondary:				
Under school leaving age	3308	3197	3064	2931
Over school leaving age	343	338	335	328
Total (excluding special schools)	7444	7285	7146	7022
School participation rates(%)				
Under fives	39.9	40.0	40.2	40.2
Over school leaving age	22.3	22.5	22.7	22.6
Teachers: number employed (full time equivalent)	408	396-400	390-395	386-390

Teacher-Pupil ratios (overall)	18.0	17.9-18.1	17.8-18.0	17.7-17.9
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Source: 'Education', March 2, 1984, London.

The teacher-pupil ratio is, therefore, further expected to fall from 18.0 in 1983-84 to 17.7-17.9 by 1986-87 in England. Small schools are threatened with closures because of declining enrolments. Speaking recently to the annual conference in London of the National Association for the Support of Small Primary Schools in Rural Areas, Sir Joseph Keith, the then Minister in charge of Education stated that his Government had never promised to protect the small primary schools. He said, the conservatives had fought and won two general elections on a promise to maintain or increase spending on defence, law and order, the national health service and pension. 'But we never made any promises about education'. In a low key speech the Minister attempted to justify the Government's policy on school closures. But, for an organisation whose *raison d'être* is protection of small schools with a majority of members from rural areas with tiny primary schools constantly in danger of closures, the situation appears to be indeed alarming, says the report.

Rising Costs and Reduced Class-size

The situation in the United States and other developed countries where population growth rate is either negligible or negative, is similar to that of U.K. and consequently the enrolment of pupils in schools is constantly going down resulting in lower teacher-pupil ratios. It can be said that smaller class size in such countries is not by choice but by force of circumstances. Moreover, the cost per pupil is also an important factor which plays a vital part in determining the teacher-pupil ratio.

A comparison of the figures of different local education authorities in London shows that the average teacher-pupil ratio in primary schools now varies, according to l.e.a. category, between 17.24 and 22.68 pupils per teacher, and in secondary schools between 13.02 and 16.78 pupils per teacher. In every category of l.e.a., in average terms, this represents a small but consistent improvement over previous year as the fall in the school roll has not been matched by the loss of jobs.

The Inner London Education Authority still has the best ratio with 13.02 pupils a teacher in secondary schools and 17.24 in primary schools. Kirklees is worst in secondary schools, with a figure of 16.78 while in the primary sector Worcester is at the bottom with 22.68. Giving an account of the teacher-pupil ratios, the Times Educational Supplement (April 20,

1984), London, reports that average teacher-pupil ratios in schools are continuing to improve, against a background of rising costs for teaching staff in most areas and wide disparities in local authority spending per child. The gross cost per pupil to education authorities has remained almost static over the past two years, with the exception of the ILEA area where it has fallen from an average of Pounds 1633 to Pounds 1600 (Secondary) and from Pounds 1163 to Pounds 1129 (Primary). But whereas the Inner London Education Authority was spending an average of over Pounds 30 less per child in 1983-84 compared with previous year, some areas, notably the metropolitan districts, were spending more. The ILEA has particularly cut the costs of its teaching staff, but in many other areas this has actually risen. In common with previous statistics, the figures indicate a wide disparity in the actual spending power of local authorities — the base from which its percentage increase or decrease is taken. For example, while, ILEA was planning to spend Pounds 1600 on each secondary pupil, Dudley was spending only Pounds 866. Outside inner London, the parental contribution towards school meals has risen, but in the ILEA area the figure has dropped from 17.7 per cent (1982-83) to 16.7 per cent (1983-84). The number of children who qualify for free school meals, on the other hand, has risen in average terms in all areas. The net cost of education per head of the population according to the Times Educational Supplement is remaining almost static except in London, where the cost rose from Pounds 323.25 in 1982-83 to Pounds 359.29 in 1983-84.

The Indian Scene

In India, while there are a few researches available in the area of teaching and teacher behaviour (Buch, M.B., 1974, 1979), there are hardly any researches in the area of class-size and determination of optimum teacher-pupil ratios for schools. At the higher education stage, V.Eswara Reddy and Sneha Joshi (1979) report that "to-day we see the phenomena of large sized classrooms especially at the undergraduate level. The size of the classroom is growing because of the increased enrolments. In view of the limited resources it is not possible to improve the teacher-student ratios. So necessarily we have to depend upon some kind of technical media to obviate this problem. What media is to be used with what effectiveness is a matter for examination".

At the school stage, Goyal (1975) studied the procedures and criteria that existed in the states for manpower planning, the procedure used for assessing teacher demands for schools in the States, the criteria applied for estimating teacher requirements, whether shortage of any kind of teachers

was felt during the period (1969-70 to 1971-72) under study, and whether any coordination was done between the likely demand for teachers and their supply from the teacher training institutions. The study was a survey. A questionnaire was prepared and mailed to the state departments of education of all the then existing twenty one states and nine union territories. Data, which were received from eighteen states and seven union territories, were compiled and analysed. Goyal found that there was no proper machinery in the state departments of education to look after the work of estimating teacher requirements for future years on a systematic basis. In most of the states the responsibility was with a section in the department while in others state institutes of education, state boards of teacher education and universities were said to be sharing the responsibility. Either no procedure was followed for the purpose, or if followed any, it was not adequate and systematic. The main procedure to work out demand had been to compile the information received from the district level education officers in the state. Criteria used for assessing teacher demand were mainly teacher-pupil ratios which generally varied from 1:35 to 1:50 in case of primary schools. For middle and high/higher secondary schools the pattern differed greatly; in certain states the teachers were provided on the basis of enrolment in a section which varied from 1:25 to 1:45 in general; in some other states it was on the basis of sections—one teacher per section or three teachers for two sections; some other states used the criteria of certain periods per week for a teacher varying from twenty seven to thirty six periods a week. In case of opening new schools in certain states, some fixed number of teachers were appointed. The replacement needs of teachers were not taken into consideration at all in some states; some states reported that the provision was made according to budget allocations; while there was a large number of unemployed teachers in almost all the states, shortage of teachers in some states and in some specific subjects such as science, mathematics, english, classical subjects and craft was felt. Shortage of trained, specially lady teachers was acutely felt in many states. In most of the states, there was no proper coordination between various agencies like the state departments of education and universities to match the supply with demand for teachers.

Adaval (1952) aimed at finding out the specific qualities needed to make the teacher successful in the profession and the motives of persons to take up teaching as their profession. The study revealed that intelligence was an important factor in determining one's aptitude for teaching. The chief motives for undertaking the profession were revealed to be love for public service and love for children. Kaul (1972) studied the differentiat-

ing personality traits and values of 124 'popular' teachers and 100 'not popular' teachers. The popular teachers distinguished themselves as more outgoing, intelligent, emotionally more stable, sober, conscientious, venturesome, toughminded, shrewd, placid, controlled and relaxed. They were significantly high on theoretical, social, political, and religious values and were significantly low on economic and aesthetic values.

Mehta (1972) factor analysed the teaching ability of 489 pupil-teachers of Maharashtra. The investigator established that there was a general ability called 'Teaching Ability' found as a factor highly loaded with achievement variables of training. Qureshi (1972) studied the relationship between different dimensions of teacher behaviour and found that the personality of the teacher did not relate to his/her teacher behaviour in the class. Santhanam (1972) concluded that age, recency of training and experience did not relate to indirectness of the teacher in the class, whereas sex and marital status did affect some aspects of indirectness. Also subject taught affected indirectness of the teacher in the class.

Sharma (1972) and Padma (1976), in their experimental studies, attempted to find out the effect of different teaching patterns on the cognitive attainment of pupils. Both these studies were conducted involving the pupils of grade VII of Baroda city. Sharma (1972) found that a teaching pattern which involved narrow questions was more effective than other teaching patterns in attaining the knowledge and comprehension objectives. It was not possible for both the investigators to identify a pattern of teaching which was superior to others in attaining the application objective. Lulla (1974) involved the teachers and students of municipal corporation schools of Baroda city to find out the effects of teachers' classroom influence upon the pupils' achievement. The study revealed that the pupils taught by teachers trained to be indirect achieved higher than pupils taught by teachers trained otherwise. Roka (1976) experimented with nine inservice science teachers to find out the effect of certain verbal teaching behaviour patterns on the pupils' achievement at knowledge, understanding and application levels. From these studies an inference can be made that indirect teacher behaviour has a positive role in the development of certain affective, as well as cognitive abilities of the pupils. Jangira (1972) tested the effectiveness of 'class-room behaviour training' based on interaction analysis vis-a-vis conventional programme of student teaching in developing responsiveness, indirectness and flexibility of teacher influence in the student-teachers and found that Classroom Behaviour Training did change the classroom interaction patterns of the student-teachers.

Education Commission's View

The Education Commission of India (1964-66) had observed that:

At the lower Primary and Upper Primary stage accessibility is the overriding consideration, and small schools, in spite of their heavier cost and lower efficiency, must be accepted. The optimum size of a school is: for a lower primary school — 4 or 5 teachers and an enrolment of 160 to 200, i.e. a school of 4 or 5 classes; and for a higher primary school, a school of 7 or 8 classes, a teacher for each class (excluding the headmaster) and an enrolment of 300-400. Wherever possible, schools of this size (or even bigger ones) should be established. This can be done in all urban areas and in villages of 1500 persons or more. Since small villages predominate, small schools will have to be established, in spite of their comparatively greater cost and lower efficiency. The general rule should be to establish a lower primary school within a mile or so of the home of every child, and a higher primary school, within three miles. Villages with a population of 200-300 should have a lower primary school and those with a population of 700 or more should have a higher primary school.

Accordingly while easy accessibility was the main consideration of the Education Commission for planning of primary and middle schools in the country, it visualised that teacher-pupil ratio of 1:40 per class would be an ideal ratio for schools. But it was noted by the Commission that about one-third of all primary schools had enrolment of less than 40 pupils, and about two-thirds had enrolment of less than 100. Only about one-fourth of the schools had an enrolment of 140 and more where a teacher could be placed in charge of each separate class. It also noted that while enrolment in a middle school consisting of classes VI, VII and VIII should be about 120 so that one teacher could be put economically in charge of each class, only one-third of the middle schools qualified as per this norm. Even if it was assumed that minimum enrolment in a middle school be about 60, the Commission said, 40 per cent of the institutions fell below that level.

Urban Rural Disparities in Primary Schools

The Second All-India Educational Survey (1967) conducted with reference date as 31.12.65 revealed that 37.66 per cent of the primary schools had one teacher, 26.8% had two teachers and 14.50 per cent had three teachers each. In only 21.04 per cent of the primary schools in the

country the number of teachers was four or more than four. In 12.47% of the primary schools, the enrolment was up to 30. If the norm of optimum size of a primary school as recommended by the Education Commission, were to be followed, then 82.91 per cent of primary schools in the country had an enrolment of less than 161.

In urban areas, 32.06 per cent of primary schools had less than four teachers. They included 8.67% schools which were one-teacher schools and 11.22% two-teacher schools. From the point of view of enrolment, in 43.83 per cent urban primary schools, the enrolment was less than 161, the optimum size suggested for a primary school by Education Commission.

In rural areas, 40.72 per cent primary schools were one-teacher schools, 28.49 per cent had two teachers and 14.72 per cent had three teachers each. In only 15.95 per cent of primary schools, the number of teachers was four or more. In 13.54 per cent of rural primary schools, the enrolment was upto 30 only; in 22.25 per cent schools, it was 31 to 50.

The Third All-India Educational Survey (1979) conducted with reference date as December 31, 1973 did not register any significant changes in the matter of teacher-pupil ratios as compared to the second survey in 1965. It was observed that 35 per cent of Primary schools were single-teacher schools; a few of them had no teacher. 26.07 per cent primary schools had two teachers and 14.70 per cent had 3 teachers each. 8.65 per cent schools had 4 teachers and 15.51 per cent schools had 5 or more than 5 teachers each. The small-sized schools were more in rural areas and the large-sized schools were more in urban areas. Schools with an enrolment up to 100 were 68.85 per cent of the total primary schools in the rural areas, whereas in urban areas this percentage was only 24.44. Schools with an enrolment of over 160 were only 8.3 per cent of the schools in rural areas, whereas the corresponding figure for urban areas was 40.54 per cent.

The Fourth All-India Educational Survey (1980) with reference date as 30.9.1978 did not again present a significantly different picture. As against 37.66 per cent primary schools having only one-teacher (including a few without a teacher) in 1965 and 35% in 1973, there were 32.45 per cent primary schools of that category in 1978 (Table 1.5). The percentage of two-teacher and three-teacher schools remained almost unchanged. The percentage of four-teacher schools and five or more teacher schools, however, somewhat increased from 7.90 in 1965 to 9.34 in 1978 and from 13.15 in 1965 to 17.01 in 1978 respectively.

One significant change that took place during this period was that percentage of single teacher primary schools in rural areas came down from 40.84 in 1965 to 35.69 in 1978.

From the point of view of enrolment (Table 1.6), percentage of primary schools with enrolment upto 40 only also came down from 28.75 in 1965, to 19.08 in 1978 and this was particularly visible in rural areas where primary schools with enrolment of only 40 students came down from 25.74 to 20.38 per cent.

Yet, the share of small schools in India is still quite sizeable and it seems inevitable to do away with small schools in the context of the national goal of providing elementary education to all children of 6 to 14 age group in the country, where accessibility is an important consideration in making provisions for schools.

Table No. 1.5

**Percentage Distribution of Primary Schools in India
According to the Number of Teachers**

Area	Percentage of primary schools with					Total
	One(including zero) teacher	Two teachers	Three teachers	Four teachers	Five & more than 5 teachers	
1	2	3	4	5	6	7
1965						
Rural	40.84	28.49	14.72	7.39	8.56	100.00
Urban	8.41	11.22	12.43	12.57	55.37	100.00
All areas	37.66	26.80	14.50	7.90	13.15	100.00
1973						
Rural	37.76	27.57	15.08	8.12	11.47	100.00
Urban	7.90	10.84	10.86	14.04	56.36	100.00
All areas	35.07	26.07	14.70	8.65	15.51	100.00
1978						
Rural	35.69	28.24	15.36	8.71	12.00	100.00
Urban	5.90	10.17	11.31	14.52	58.10	100.00
All areas	32.45	26.28	14.92	9.34	17.01	100.00

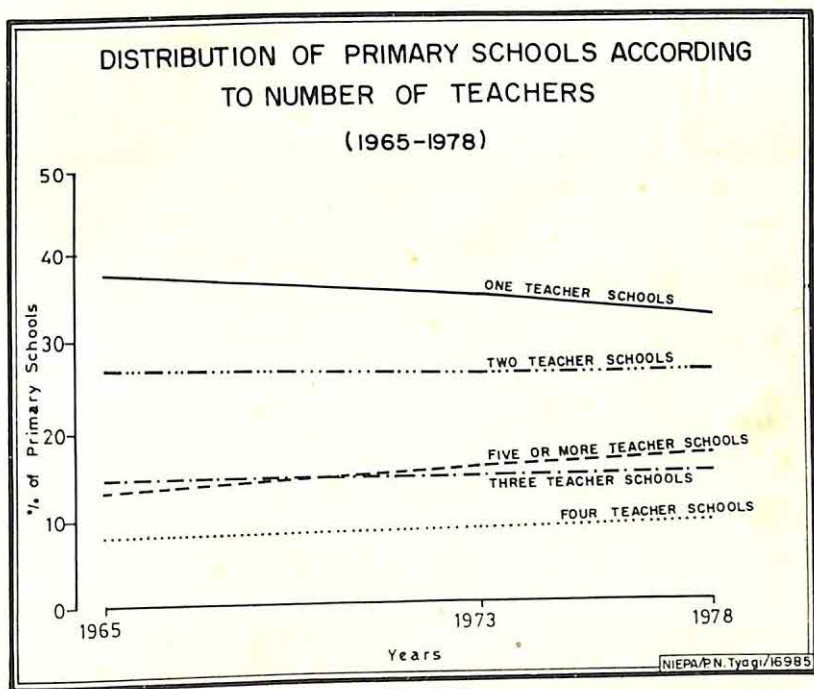


Fig. 1·2

Table No. 1.6

Cumulative Percentage Distribution of Primary Schools In India According to Enrolment

Area	Percentage of primary schools with enrolment up to						
	10	40	80	100	120	160	200 and above
1965							
Rural	0.62	25.74	58.84	68.93	76.95	87.16	100.00
Urban	0.23	5.52	17.47	23.68	30.66	43.83	100.00
Total	0.58	28.75	54.78	64.49	72.41	82.91	100.00
1973							
Rural	0.65	25.74	58.33	68.25	76.22	91.67	100.00
Urban	0.20	5.47	17.57	24.44	31.79	59.46	100.00
Total	0.61	23.92	54.68	64.33	72.25	88.80	100.00
1978							
Rural	N.A.	20.38	54.41	66.08	74.85	85.71	100.00
Urban	N.A.	4.30	15.40	22.33	30.09	45.38	100.00
Total	N.A.	19.08	50.18	61.34	70.00	81.34	100.00

According to the Second-All India Educational Survey, 58.95% primary schools in urban areas had a teacher-pupil ratio of between 31 to 50; 26.27% primary schools had a teacher-pupil ratio of below 31 and 14.78% had teacher-pupil ratio of above 50. In rural areas, 50.41% primary schools had a teacher-pupil ratio of between 31 to 50; 28.54% schools had teacher-pupil ratio below 31, and 21.05% had teacher-pupil ratio above 50.

The fourth All-India Educational Survey revealed that at primary stage the teacher-pupil ratio was below 30 in 29.18% schools; it was above 50 in 17.97% schools. In rural areas it was below 30 in 29.56% schools and

above 50 in 17.86% schools. In urban areas, it was below 30 in 29.56% schools and above 50 in 17.86% schools. In urban areas, it was below 30 in 26.10% schools and above 50 in 17.21% schools. Private unaided schools were better placed with teacher-pupil ratio less than 30 in 43.23% schools followed by Government schools where this ratio was found in 35.10% schools. The percentages of such schools amongst local body and private aided schools were 24.95 and 24.18 respectively. Table 1.7 gives a comparative picture of second and fourth all-India Surveys in terms of teacher-pupil ratios for primary schools.

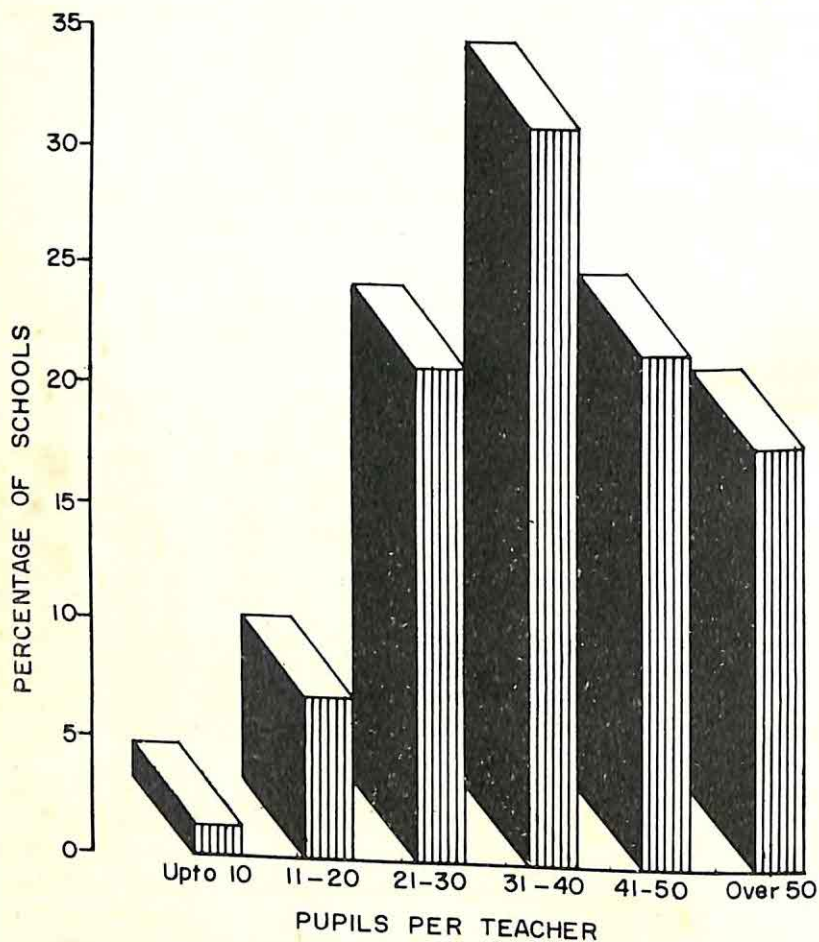
Table No. 1.7

**Percentage Distribution of Primary Schools in India
According to Teacher-Pupil Ratios**

Teacher-pupil Ratio	Percentage of Primary Schools in					
	Rural Area		Urban Area		All Areas	
	1965	1978	1965	1978	1965	1978
Upto 10	0.79	1.36	0.61	1.31	0.77	1.36
11 - 20	6.22	6.97	5.10	6.53	6.11	6.92
21 - 30	21.53	21.23	20.56	18.26	21.44	20.90
31 - 40	30.32	31.04	38.77	31.37	31.15	31.08
41 - 50	20.09	21.54	20.18	25.32	20.10	21.45
51 - 60	10.41)		7.93)		10.16)	
61 - 70	5.07)		3.23)		4.89)	
71 - 80	2.61)	17.86	1.66)	17.21	2.52)	17.79
81 - 90	1.09)		0.70)		1.05)	
91 - 100	0.82)		0.54)		0.79)	
More than 100	1.05)		0.72)		1.02)	
Total	100.00	100.00	100.00	100.00	100.00	100.00

It is observed from the surveys that there was generally disproportionate allocation of teachers in rural areas, the reasons being: first, the enrolment was not forthcoming and secondly, teachers were not willing to go to villages. Further, when teachers were posted in rural areas, they proceeded on leave or got themselves transferred and it took time to make

TEACHER-PUPIL RATIOS IN
PRIMARY SCHOOLS OF INDIA
(1978-79)



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Fig. 1-3

fresh appointments. Sometimes the same process was repeated in the case of fresh postings and the schools in rural areas thus remained without an adequate number of teachers.

Middle Schools Status

As regards the middle schools or the schools having middle classes (VI, VII & VIII), Table 1.8 gives percentage distribution of middle schools according to number of teachers as per second and fourth all-India educational surveys.

Table No. 1.8

Percentage Distribution of Middle Schools in India According to the Number of Teachers

Number of teachers	Rural Area		Urban Area		All Areas	
	1965	1978	1965	1978	1965	1978
One (including Zero)	10.33)		5.02)		17.04)	
Two	18.48)	8.55	5.79)	1.98	15.76)	7.49
Three	20.45)		10.55)		18.32)	
Four	15.15)	25.13	12.45)	8.60	14.55)	22.46
Five & more than five	25.59	66.32	66.19	89.42	34.33	70.05
Total	100.00	100.00	100.00	100.00	100.00	100.00

Table 1.8 shows that in so far as middle schools are concerned, the position regarding one-teacher and two-teacher schools in India has improved considerably since 1965. According to the fourth all-India survey, there were in 1978 only 8.55 per cent rural middle schools and only 1.98% urban middle schools which had merely one or two teachers, as against 48.81 and 10.81 per cent respectively in 1965. The percentage of middle schools with only three to four teachers also came down; whereas the percentage of schools having five or more teachers went up. There were over 70 per cent schools with five or more than five teachers in 1978.

Table 1.9 gives cumulative percentage distributions of middle sections according to enrolment, as revealed by the second & fourth all-India surveys.

Table No. 1.9

Cumulative Percentage Distributions of Middle Schools in India According to Enrolment

Area	Percentage of middle sections with enrolment upto								
	10	30	40	60	80	100	120	160	200 & above
1965									
Rural	5.97	25.79	35.16	51.49	63.65	72.01	78.42	86.66	100.00
Urban	0.98	5.97	9.28	15.92	22.91	30.60	37.53	49.58	100.00
Total	4.90	21.54	29.61	43.86	54.91	63.13	69.65	78.71	100.00
1978									
Rural	N.A	N.A	18.12	29.82	40.56	50.60	59.29	73.32	100.00
Urban	N.A	N.A	5.05	10.30	16.04	22.70	29.98	43.41	100.00
Total	N.A	N.A	15.45	25.69	35.37	44.70	53.09	66.99	100.00

It will be seen from table 1.9 that 35.16% of rural middle schools having Classes VI, VII and VIII according to 2nd all-India survey had a total enrolment of up to 40 only; in 51.49% rural middle schools, total enrolment was up to 60 only. The middle schools in rural areas were thus, by and large small schools. The position has improved since then, as according to the fourth survey, only 18.12% rural schools have an enrolment of up to 40, and 29.82% have an enrolment up to 60. The percentage of small-size middle schools has therefore, been considerably reduced over the time. Yet, there is a long way to go if the recommendation of the Education Commission regarding the optimum size of a middle school was to be followed.

Table 1.10 gives percentage distributions of middle schools according to teacher-pupil ratios as revealed from the 2nd and 4th surveys.

Table No. 1.10

**Percentage Distributions of Middle Schools in India
According to Teacher-Pupil Ratios**

Teacher-pupil Ratios	Percentage of Middle Schools					
	Rural Area		Urban Area		All Areas	
	1965	1978	1965	1978	1965	1978
Upto 10	12.38	1.36	4.94	1.30	10.77	1.35
11 - 20	35.08	6.97	23.19	6.53	32.50	6.93
21 - 30	32.44	21.24	32.09	18.29	32.36	20.92
31 - 40	14.06	31.02	18.05	31.34	14.93	31.05
41 - 50	3.82	21.54	17.08	25.32	6.70	21.90
51 - 60	1.41)		1.85)		1.50)	
51 - 70	0.40)		1.06)		0.54)	
71 - 80	0.18)		0.50)		0.25)	
81 - 90	0.07)	17.87	0.54)	17.22	0.17)	17.85
91 - 100	0.07)		0.32)		0.12)	
More than 100	0.09)		0.38)		0.16)	
Total	100.00	100.00	100.00	100.00	100.00	100.00

It is noteworthy that in so far as middle schools are concerned, the position regarding teacher-pupil ratio is almost similar in rural and urban areas, according to the fourth survey. But compared with the 2nd survey held in 1965, it is revealed that the percentage of schools having a teacher-pupil ratio of 31 to 40 has more than doubled i.e. from 14.93 to 31.05. Similarly the percentage of schools having teacher-pupil ratio of 41 to 50 has increased threefold from 6.70 to 21.90. Even the percentage of schools having teacher-pupil ratio of over 50 has gone up from 2.74 to 17.85. Thus, the trend has lately been towards larger class size.

Stagewise Teacher-Pupil Ratios in India

The latest available statistics reveal the following teacher-pupil ratios in India at national level:

TEACHER-PUPIL RATIOS IN MIDDLE SCHOOLS OF INDIA (1978-79)

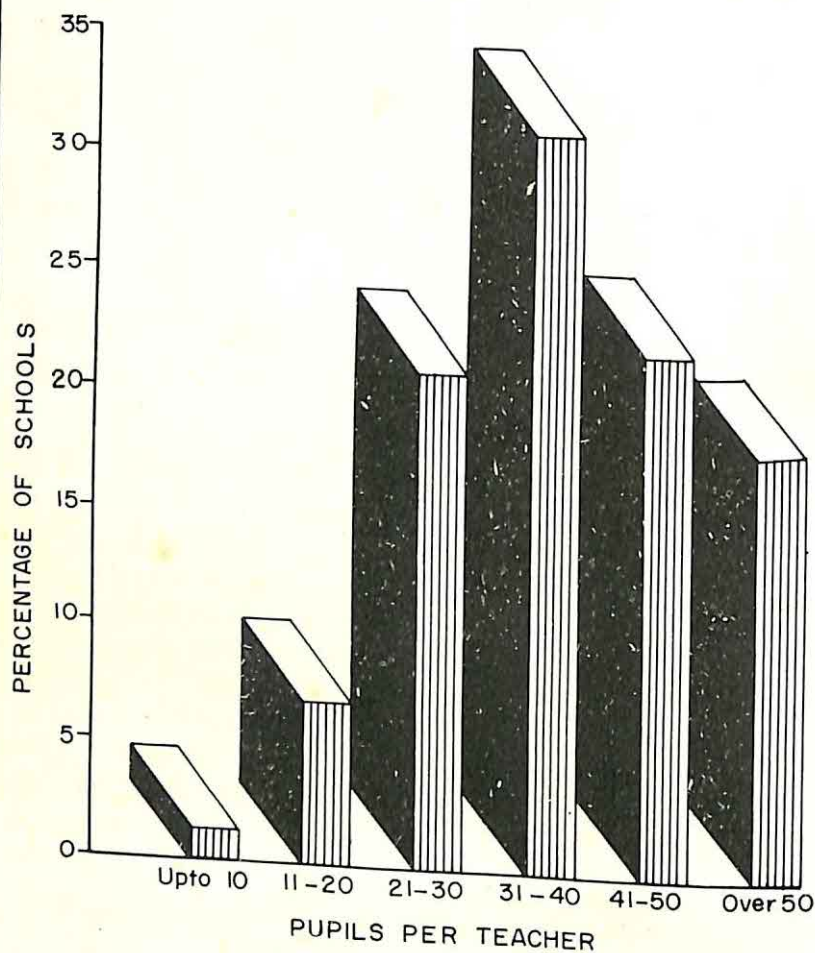


Fig. 1.4

Table No. 1.11

Teacher-pupil Ratios in India at National Level

Primary stage	1:41
Middle stage	1:36
Secondary stage	1:30

Source: Selected Educational Statistics, 1984-85, Ministry of Human Resource Development, Department of Education, Planning, Monitoring and Statistics Division, Government of India (1986).

Some Questions to Ponder

Do the above mentioned teacher-pupil ratios reveal the true state of situation that exists in various states or parts of India? What are the constraints and difficulties which stand in the way of a developing country like India to have ideal class-room conditions? What should be the optimum teacher-pupil ratio in the context of our country? What steps should be taken to achieve the same and whether small class size is *sine qua non* to improve the teaching-learning process? These are some of the questions which deserve our immediate attention.

References

1. Adaval S.B., An Investigation into the Qualities of Teachers under Training; Ph.D. Edu., All U., 1952.
2. Buch M.B.(Ed.), a Survey of Research in Education (1st Survey), Centre of Advanced Study in Education, M.S. University of Baroda, Baroda, 1974.
3. Buch M.B.(Ed.) Second Survey of Research in Education (1972-78), Society for Educational Research and Development, Baroda, 1979.
4. Dean T.Jamison, Reducing Class Size and other Alternatives for Improving Schols: An Economist's View, in School Class Size by Gene V. Glass et al; Sage, London, 1982.
5. Educational Statistics for the U.K., 1983 Edition; HMSO, London.
6. Education; The Journal of Educational Administration, Management and Policy, Vol. 163, No.9, Page 177, March 2, 1984, London.
7. Education; The Journal of Educational Administration, Management and Policy, Vol. 163, no.12, page 237, March 23, 1984,

London.

8. Government of India, Education & National Development: Report of the Education Commission, 1966.
9. Government of India, Selected Educational Statistics 1984-85; Studies in Educational Statistics No.1, 1986, Ministry of Human Resource Development, Department of Education, New Delhi.
10. Goyal J.C., Planning Teacher Requirements in the States—A Study of Procedures and Criteria, Department of Teacher Education, NCERT, New Delhi, 1975.
11. Gene V. Glass, Leonard S. Cahen, Mary Lee Smith, and Nikola N. Filby. School Class Size: Research and Policy, Sage Publications, London, 1982.
12. Jangira N.K., Classroom Behaviour Training of Teachers and its Relationship with Some Selected Measures of Pupils' Criteria of Teacher Effectiveness, Ph. D. Education, M.S. University of Baroda, Baroda, 1972.
13. Kaul L., Factorial Study of Certain Personality Variables of Popular Teachers in Secondary Schools, Ph.D. Edu., Udai., U., 1972.
14. Lulla B.P., Shah G.B. & Darji, D.R. Investigation into the Courses of General Backwardness of the Elementary Stage (Classes I-VII), Centre of Advanced Study in Education, Baroda, 1966.
15. Mehta V.B., A Factorial Analysis of Teaching Ability of Graduate Pupil-Teachers of Secondary Teachers' Training Colleges, Ph.D. Edu., Nag.Univ., 1972.
16. NCERT, 2nd All-India Educational Survey; 1967.
17. NCERT, 3rd All-India Educational Survey; 1979.
18. NCERT, 4th All-India Educational Survey; 1980.
19. Padma M.S., Teaching Patterns and Pupils' Attainment, Ph.D., Edu. MSU., 1976.
20. Padma M.S., Teaching and Teacher Behaviour — A Trend Report, in Second Survey of Research in Education, M.B. Buch (Ed.), Society for Educational Research and Development, Baroda, 1979.
21. Quraishi Z.M., Personality, Attitudes and Classroom Behaviour of Teachers, Ph.D., Edu., MSU., 1972.
22. Reddy V.E. & Sneha Joshi, A Trend Report in Higher Education, 2nd Survey of Research in Edu., Society for Educational Research & Development, Baroda, 1979.
23. Roka S.D., A Comparative Study of Verbal Teaching Behaviour Patterns and Students' Achievement in Terms of Instructional Objectives, Ph.D., Edu., MSU., 1976.

24. Smith, Mary Lee, and Gene V. Glass. "Meta-analysis of Research on Class Size and Its Relationship to Attitudes and Instruction", *American Educational Research Journal* 17 (1980): 419-33.
25. Santhanam M.R., A Study of the Patterns of Teacher Influence in Some Selected Schools, Ph.D., Edu., MSU, 1972.
26. Sharma S., Relationship between Patterns of Teacher Classroom Behaviour and Pupils' Attainment in Terms of Instructional Objectives, Ph. D. Edu., MSU, 1972.
27. Times Educational Supplement, No. 3538, April 20, 1984, London.
28. Unesco: Statistical Year Books, 1983 and 1984; Paris, 1983, 1984.



Chapter II

OBJECTIVES, SAMPLING, TOOLS AND COVERAGE OF THE STUDY

The Genesis

IN India, there is a strong difference of opinion as to what should be the optimum teacher-pupil ratio at the primary, middle and secondary stages of school education. There is one view which says that teacher-pupil ratio should not be more than 1:20 and increasingly we should move in the direction of individualisation of instruction. The other view is, and that is an equally strong view, that there is really no point in having a low teacher-pupil ratio in a country which is poor. According to that view the teacher-pupil ratio could be 1:60, even more, at the primary stage. But when it comes to quality in education, particularly at the secondary stage and with reference to teaching of science it is stated by a large section of the people that if you want quality, then obviously you need to have a limited number of seats in a class so that practical experiments can be done in a meaningful way and the teacher can attend to individual pupil's interests and needs. But at the same time, it is also said that in order to have a general appreciation of basic science by all children, you need to have more pupils in a class. Therefore, while one view is in favour of more pupils and a higher teacher-pupil ratio, the other view is in favour of better quality and hence for lower teacher-pupil ratio.

Statewise Position

Since the Fourth All-India Educational Survey was held in 1978 some thought is being given to the question as to what the teacher-pupil ratio should be for different stages of education. It has been noted as a result of the survey that whereas at the primary stage the all-India average was 41 pupils per teacher in a class, Rajasthan had the highest teacher-pupil ratio of 1:59 and Manipur had the lowest ratio of 1:17 at the primary stage. There were states like Andhra Pradesh, Gujarat and Karnataka where the teacher-pupil ratio was 1:50 or more. At the middle stage, as against the all-India average of 1:25 the teacher-pupil ratio varied from 1:33 in West Bengal to

1:13 in Sikkim. Similarly, at the secondary and higher secondary stage while the all-India average was 1:18 the teacher-pupil ratio differed from 1:13 in Bihar to 1:8 in Sikkim and 1:11 in Andhra Pradesh. The position now is not much different from what it was in 1978 as would be evident from Table No. 2.1.

The major area of concern was that even within a State the actual position in schools varied considerably from what was borne out at the State level or even from what was prescribed by the State authorities for different stages. In fact, there were about 35 per cent primary schools in the country, which were single teacher schools. In these schools, a teacher was required to teach and handle all the classes of the primary school besides attending to other activities such as conducting annual census of the school-going children in the locality, doing an enrolment drive and managing the incentives for the pupils etc.

Table No. 2.1

Statewise Teacher-Pupil Ratios in India

Sl. No.	State/Union Territory	Primary Stage		Middle Stage		Secondary/High School Stage		Hr. Sec. (10+2)
		78-79	84-85	78-79	84-85	78-79	84-85	84-85
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh	50	52	30	41	11	32	28
2.	Assam	33	40	28	24	17	29	23
3.	Bihar	41	46	22	39	30	33	25
4.	Gujarat	53	41	22	39	24	24	27
5.	Haryana	39	44	32	35	14	33	28*
6.	Himachal Pradesh	35	37	18	17	16	30	25*
7.	Jammu & Kashmir	28	29	15	22	11	20	21
8.	Karnataka	55	45	27	52	27	36	24
9.	Kerala	41	32	29	32	22	28	26
10.	Madhya Pradesh	36	43	23	30	17	—	26*
11.	Maharashtra	44	39	25	37	20	30	34
12.	Manipur	17	18	21	17	17	24	17
13.	Meghalaya	30	30	17	16	19	26	—
14.	Nagaland	21	22	15	20	13	24	—

1	2	3	4	5	6	7	8	9
15.	Orissa	34	37	17	26	19	21	40
16.	Punjab	41	38	27	16	14	22	26*
17.	Rajasthan	59	47	16	32	10	20	24*
18.	Sikkim	25	17	13	20	8	22	16
19.	Tamil Nadu	42	42	28	42	17	28	27
20.	Tripura	33	39	19	29	13	28	21
21.	Uttar Pradesh	39	45	25	28	18	34	-
22.	West Bengal	36	37	33	45	15	40	30
23.	A&N Islands	23	21	16	21	13	20	21
24.	Arunachal Pradesh	32	44	13	24	8	10	21
25.	Chandigarh	32	20	25	30	12	24	19*
26.	Dadra & Nagar Haveli	50	40	22	32	16	25	19
27.	Delhi	33	34	26	24	18	24	21
28.	Goa, Daman & Diu	33	28	34	32	17	28	12
29.	Lakshadweep	37	28	19	18	14	19	18
30.	Mizoram	35	26	15	13	19	15	-
31.	Pondicherry	35	28	27	30	19	26	32
All India		45	41	25	36	18	30	27

Source: Fourth All-India Educational Survey — Some Statistics on School Education; 1980; NCERT

Selected Educational Statistics 1984-85; Studies in Educational Statistics No. 1, 1986, Ministry of HRD, Department of Education, Planning, Monitoring and Statistics Division, Govt. of India, 1986.

NB: * Shows figures for old higher sec. pattern i.e. classes IX-XI.

The country has been facing a tremendous problem of achieving universalisation of elementary education. The Constitutional provision of extending elementary education to all children upto the age of 14, within ten years of the promulgation of the Constitution i.e., by 1960, has remained unfulfilled so far. This is so despite the fact that since independence, India has witnessed an unprecedented expansion in the field of school education. The number of schools has increased significantly during the last three decades. More and more first generation learners are

coming to schools and every effort is being made to ensure that children of the school going age are not deprived of the benefit of school education.

In addition to the pressing problem of achieving the universalisation of elementary education in different States and Union Territories there is the problem of equity coupled with the need for raising the quality of school education in the country. The question of teacher-pupil ratio is also closely linked with and affected by several other factors such as work load and working conditions of teachers, size of class, constraints of financial and other resources, remoteness and inaccessibility of the area in which the school is located, typology of the place and above all diverse linguistic and cultural heritage of the country.

It may be recalled that the Public Accounts Committee (PAC) of the Parliament had expressed some time back its concern over the existing situation regarding the teacher-pupil ratio in the country and emphasized the need for evolving optimum teacher-pupil ratios at the elementary and secondary stages so that proper guidance could be provided for the benefit of educational authorities in the States. The Ministry of Education, therefore, desired that a study should be undertaken to look into the empirical situation at the primary and secondary stages of education and make appropriate suggestions.

Objectives of the Study

Accordingly, this study was undertaken with the following objectives:

- To ascertain the norms of teacher- pupil ratio as prescribed by the State Governments and Union Territories and as observed in the actual situation in the country.
- To assess the workload of teachers in terms of teaching periods per week and the time devoted for developmental activities like enrolment drive and improving retention rate for Universal Elementary Education.
- To investigate the effect of class size on teaching effectiveness.
- To make suggestions regarding optimum teacher-pupil ratios for different situations and contexts of schools keeping in view the feasibility aspect.

Sampling

In order that the study had a wider coverage and that the sample was fairly representative of the different typologies existing in the country, all

the National Sample Survey Regions* were taken as the first stage of sampling. It was proposed to conduct the study on institutional level data. Therefore, in the second stage 580 schools from 58 National Sample Survey Regions i.e. 10 schools from each NSS region, were selected through stratified random sampling. The stratification was done on the basis of rural/urban, primary/middle/secondary, tribal/non-tribal, and Single/multiple teacher schools.

From each NSS region one district was selected at random. For purpose of selection of schools from each district, the 'educational district' was taken as the unit of the sample. From each sample district (educational), 10 schools were selected.

The District Education Officer concerned was requested to identify 10 schools from his/her district keeping in view the following guide lines:

- (a) Seven schools from rural areas and 3 schools from semi-urban/urban areas.
- (b) Out of 7 rural schools, 5 schools should be primary and 2 schools middle/high.
- (c) Out of 3 semi-urban/urban schools, 1 should be primary school, 1 middle school and 1 high school.
- (d) Out of 5 rural primary schools one school as far as possible should be single teacher primary school.
- (e) In case of separate schools for boys and girls, it should be ensured that they are duly covered by the sample.
- (f) Wherever possible, one school out of the total 10 schools per district should be the school located in the tribal area.
- (g) The total sample of the schools selected in a district should be as representative of the district as possible.
- (h) Apart from a school having only middle classes, a school having both middle and primary classes may also be treated under the category of a middle school and similarly apart from a school having only high school classes, school having primary/middle and secondary/high classes may also be treated under the cate-

*A country-wide sample survey called the National Sample Survey (NSS) was started by the Government of India in 1950 to collect by statistical sampling-comprehensive socio-economic data relating to different sectors of the economy. The first survey was conducted during the period October 1950 to March 1951. Since then the NSS has been conducting sample surveys on a nation-wide basis for collecting various data required by the central and state ministries, Planning Commission and other interested organisations. The NSS is a continuing, multi-subject integrated survey, being conducted in the form of successive rounds, each round covering some topics of current interest. At the time of this study, the country was divided into 58 National Sample Survey Regions.

gory of secondary/high school.

- (i) In case of any difficulty in selecting the school on the above basis, because of non-availability of a school of a particular category or otherwise, the DEO may use his discretion and identify the schools keeping in view the above broad framework as far as possible.

Delimitations

The study was limited to the formal school system from class I to class X covering primary, middle and secondary stages of education. It was also envisaged that the analysis of the study will be confined to the data of schools for the past three years. The study was also by and large limited to policy, planning and management aspects of the problem. It did not intend to observe actual class-room behaviours of teachers in different subjects or in different situations.

The Tools and Data Collection

Normative survey method involving questionnaire and investigatory techniques were employed in the study. These were supplemented by the survey of available literature, education codes, Acts, Rules and Government Orders and examination of the various documents such as school records of enrolment, attendance, etc. For assessing the qualitative aspect of education, the annual school results of the students were taken into consideration. Wherever considered necessary, the data of the schools were collected for three years, beginning from April 1979 to March 1982.

The following tools were evolved for the study:

- (1) Statement of basic data of the schools covered by the sample containing information about the class-wise number of students, teachers, annual examination results, physical facilities etc.
- (2) Questionnaire for heads of schools—other than single-teacher schools.
- (3) Questionnaire for Middle/High school teachers.
- (4) Questionnaire for primary school teachers, other than those of single teacher schools.
- (5) Questionnaire for teachers of single-teacher schools.
- (6) Questionnaire for District Education Officers.
- (7) Statement of information to be furnished by the States.

The statewide list of 58 districts selected from the NSS Regions is

given at Appendix 1. It may be mentioned that the draft tools evolved for the study were discussed in a workshop organised by the National Institute of Educational Planning and Administration (NIEPA) in Sept 1982 at which experts from NCERT, and a number of District Education Officers and Principals of schools from various States were present besides some members of faculty of NIEPA. The advice of Indian Institute of Education, Pune was also sought in the development of the tools. The draft tools were finalised in the light of discussions held and suggestions received from the resource persons and participants.

After preparation of the tools the field level data were collected through investigators (Project Assistants). In southern States of India, the data was collected by IIE, Pune on behalf of NIEPA. The Project Assistants were given an orientation training to facilitate data collection. A handbook of instructions was prepared for their guidance. The data so collected through personal visits by project assistants as also directly from the States' education departments, have been computerised and analysed by using appropriate statistical techniques.

The Coverage

The study has covered as many as 20 States and one Union Territory of India. In all, 58 districts have been covered. The number of districts covered from each State is given in brackets: Andhra Pradesh (3), Assam(2), Bihar (3), Gujarat (2), Haryana (2), Himachal Pradesh (1), Jammu & Kashmir (3), Karnataka (4), Kerala (2), Madhya Pradesh (5), Maharashtra (6), Manipur (1), Meghalaya (1), Orissa (3), Punjab (2), Rajasthan (4), Tamil Nadu (3), Tripura (1), Uttar Pradesh (5), West Bengal (4), and Delhi (1). The number of districts in each State has varied in consonance with the NSS regions of the State.

The sample has included thickly populated urban areas and cities as well as hilly, coastal and some rural areas which were not easily accessible.

Table 2.2 gives the total number of schools covered by the study in different States/ UTs of India.

DISTRICTS COVERED BY THE STUDY

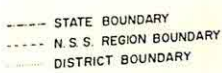


Table No. 2.2**Total Schools Covered by the Sample (Stagewise)**

Type of Schools	Rural	Urban	Total
Primary Schools	230	94	324 (55.8%)
Middle Schools	93	63	156 (26.9%)
High Schools	63	37	100 (17.3%)
Total	386	194	580 (100%)

NB: Figures within brackets indicate percentage of the number of schools in each category to the total number of schools in the sample.

It will be observed that out of 324 primary schools, 230 (71.0%) were rural, and 93 (28.7%) were urban; out of 156 middle schools, 93 (59.6%) were rural and 63 (43.4%) were urban; and out of 100 high schools, 63 (63%) were rural and 37 (37%) were urban schools. Thus, out of a total of 580, 386 (66.5%) schools were rural and 193 (33.3%) were urban i.e. almost two-third schools were rural and one-third schools were urban in the sample covered by the study.

Table 2.3 gives the distribution of schools in the sample according to their managements.

Table No. 2.3**Distribution of Schools in the Sample (Managementwise)**

Type of Management	Rural	Urban	Total
State Government	255	123	378 (65.2%)
Zila Parishad	65	28	93 (16.0%)
Local Body	29	15	44 (7.5%)
Private aided	35	26	61 (10.5%)
Private unaided	1	3	4 (0.8%)
Total	385	195	580 (100%)

Over 65% of the schools covered by the sample were thus, government schools. Another 16% were managed by Zila Parishad and 7.5% by local bodies. 10.5% schools were grant-in-aid schools. The sample, thus represented different shades of managements.

The distribution of schools covered by the sample according to students (boys, girls & co-educational) is given in Table 2.4.

Table No. 2.4

**Schools in the Sample
(Boys, Girls and Co-Educational)**

	Primary	Middle	High	Total
Boys schools	31	31	16	78 (13.5%)
Girls schools	19	26	24	69 (11.9%)
Co-educational	274	99	60	433 (74.6%)
Total	324	156	100	580 (100%)

Thus, out of a total of 580, 78 (13.5%) were boys schools, 69 (11.9%) were girls schools and the rest 433 (74.6%) were co-educational schools in the sample under study.

The respondents to the various questionnaires were primary school teachers, teachers of single-teacher schools, teachers of middle and high schools, heads of schools—primary, middle & high, and the District Education Officers/Inspectors of schools. Their number is indicated in Table 2.5.

Table No. 2.5

Distribution of Respondents

	Persons approached	Responses received
Primary School Teachers (Other than single-teacher Schools)	292	292
Teachers of Single-Teacher Schools	58	50
Middle/High School Teachers	228	228
Heads of Schools	518	518
District Education Officers	58	50
Total	1154	1138

It will be thus seen that the responses to various questionnaires were 100% except in the case of Single-Teacher Schools and DEOs where in each case out of 58, only 50 responded. The respondents covered a wide cross-section of teachers and other functionaries from different states and a union territory. It was heartening to note that, when approached, they gave their views on different matters relating to teacher-pupil ratios unhesitatingly. Special arrangements had been made to communicate with them in their own regional languages so that there was no gap of communication in the questions asked and the opinions expressed.

Chapter III

LARGER CLASSES AND FEWER FACILITIES

THE study has revealed that in the schools of the sample, actual teacher-pupil ratios for all states taken together are as follows: At the primary stage, the teacher-pupil ratio (TPR) comes to 1:36, at the middle stage, it is 1:29, and at the high school stage it is 1:24.

The details regarding actual number of teachers and students in the schools under reference, both rural and urban, are given in Table 3.1.

Table No. 3.1

Stagewise Teacher-Pupil Ratios (all States) 1982-83
(As worked out on the basis of the study)

	Rural	Urban	Total
Primary stage			
Total No. of students	54960	32565	87525
Total No. of teachers	1496	940	2436
Overall Teacher-Pupil Ratio	1:37	1:35	1:36
Middle stage			
Total No. of students	23165	22252	45417
Total No. of teachers	802	793	1595
Overall Teacher-Pupil Ratio	1:29	1:28	1:28.5
High School Stage			
Total No. of students	11102	16841	27943
Total No. of teachers	706	467	1173
Overall Teacher-Pupil Ratio	1:16	1:36	1:24

It will be observed from Table 3.1 that at the primary and middle stages, the teacher-pupil ratios do not differ significantly between rural and urban schools. However, at the high school stage, the difference becomes significant but the ratio is in favour of rural schools because as against 1:36 in urban high schools, the ratio in rural high schools is 1:16 and therefore,

teachers in rural high schools, generally speaking, should be able to pay greater individualised attention to their students as compared to those of urban high schools.

TPR at Primary Stage

The actual position regarding TPR at the primary stage in different States is represented by Tables 3.2, 3.3 & 3.4. Table No. 3.2 gives average TPR for each State, for rural schools and urban schools in 1982-83 as borne out by the study.

Table No. 3.2

Actual Strength of Teachers and Students and TPR in
1982-83
AT PRIMARY STAGE (Statewise)

S.No.	State/UT	Rural/ Urban	No. of Teachers	No. of Students	TPR
1	2	3	4	5	6
1.	Andhra Pradesh	R	4851	105	46
		U	1835	36	51
2.	Assam	R	19	419	22
		U	17	657	39
3.	Bihar	R	57	2287	40
		U	38	1655	44
4.	Gujarat	R	42	1547	37
		U	10	373	37
5.	Haryana	R	52	2136	41
		U	68	2722	40
6.	Himachal Pradesh	R	18	718	40
		U	7	184	27
7.	J & K	R	77	2511	33
		U	14	402	29
8.	Karnataka	R	67	2377	35
		U	59	2862	49
9.	Kerala	R	148	5079	34
		U	35	1785	51
10.	Madhya Pradesh	R	116	4125	36
		U	60	2248	37
11.	Maharashtra	R	189	7418	40

1	2	3	4	5	6
		U	93	3004	32
12.	Manipur	R	4	160	40
		U	20	609	30
13.	Meghalaya	R	25	740	30
		U	9	230	26
14.	Orissa	R	45	1380	31
		U	51	2347	46
15.	Punjab	R	58	2075	36
		U	3	104	35
16.	Rajasthan	R	89	3551	40
		U	110	2790	25
17.	Tamil Nadu	R	99	3738	38
		U	57	2100	37
18.	Tripura	R	27	781	29
		U	14	766	55
19.	Uttar Pradesh	R	145	6126	43
		U	67	1777	27
20.	West Bengal	R	98	2407	25
		U	73	3260	45
21.	Delhi	R	16	533	33
		U	45	1515	34

The highest & lowest TPRs for rural & urban schools covered by the study are thus as follows:

Table No. 3.3

**Highest and Lowest TPRs at Primary Stage
(State-level averages)**

Rural		
Highest	1:46	Andhra Pradesh
Lowest	1:22	Assam
Urban		
Highest	1:55	Tripura
Lowest	1:25	Rajasthan

Large Primary Classes

The above aggregated figures at state level, however, do not disclose the true picture of the schools. While aggregating the figures the picture

gets considerably blurred & distorted. Table No.3.4 gives the frequency distribution of the TPR in different States in various class intervals, as revealed by the study. It will be observed that out of 16 rural primary schools studied in Andhra Pradesh as many as 7(43%) have a teacher-pupil ratio of over 1:50. Three of them (19%) have a TPR which varies from 61 to 70; and two (12.5%) have more than 70 students per teacher. Rajasthan also has a disquieting situation in as much as 7 rural primary schools (30%) out of 23 covered by the sample, have a TPR which is over 1:50. There is one school where the ratio is between 1:61 and 1:70. In U.P. out of twenty-seven rural primary schools covered by the study, there are 3 schools each having the ratio of 61-70 and over 70. In J & K the percentage of rural primary schools having over 70 students per teacher is the highest in the country. Out of 23, as many as 4 schools were found to have TPR of more than 1:70.

Table No. 3.4

Actual Teacher-Pupil Ratios at Primary Stage
Statewise Frequency Distribution of Schools Having Different Teacher-Pupil Ratios

S. No	States/ UTs	Rural/ Urban	TPR below 20	21-30	31-40	41-50	51-60	61-70	70+	Total schools in the sample
1	2	3	4	5	6	7	8	9	10	11
1.	Andhra Pradesh	R	-	3	2	4	2	3	2	16
2.	Assam	U	1	-	-	-	-	-	-	1
		R	1	1	1	-	1	-	-	4
3.	Bihar	U	1	2	1	6	1	1	-	16
		R	2	4	2	2	3	-	-	8
4.	Gujarat	U	-	1	2	6	-	-	-	11
		R	-	3	2	6	-	-	-	2
5.	Haryana	U	-	1	-	-	1	-	-	10
		R	-	-	6	3	1	-	-	6
6.	Himachal Pradesh	U	-	1	2	2	1	-	-	7
		R	-	1	3	2	-	1	-	2
7.	J & K	U	1	1	-	-	-	-	-	23
		R	4	4	2	7	1	-	-	4
		U	-	3	1	-	-	1	4	4

1	2	3	4	5	6	7	8	9	10	11
8.	Karnataka	R	3	5	6	2	2	-	1	19
		U	-	-	3	3	2	2	-	10
9.	Kerala	R	1	5	2	4	-	1	-	13
		U	-	-	-	2	-	1	-	3
10.	Madhya Pradesh	R	1	9	15	5	2	1	-	33
		U	-	-	3	2	-	-	-	5
11.	Maharashtra	R	-	8	14	8	1	-	2	33
		U	1	1	9	2	-	-	-	13
12.	Manipur	R	-	-	2	-	-	-	-	2
		U	-	2	3	-	-	1	-	5
13.	Meghalaya	R	-	2	-	-	-	-	-	2
		U	-	4	-	-	-	-	-	11
14.	Orissa	R	1	4	1	4	1	-	-	9
		U	-	1	2	2	1	2	1	11
15.	Punjab	R	1	4	2	3	1	-	-	4
		U	3	-	1	-	-	-	-	23
16.	Rajasthan	R	3	4	3	6	4	1	2	7
		U	-	1	3	2	1	-	-	13
17.	Tamil Nadu	R	-	1	6	5	-	1	-	3
		U	-	-	2	1	-	-	-	5
18.	Tripura	R	-	2	3	-	-	-	-	4
		U	-	1	-	1	2	-	-	27
19.	U.P.	R	2	1	11	7	-	3	3	7
		U	-	4	2	1	-	-	-	10
20.	West Bengal	R	-	1	7	1	1	-	-	19
		U	-	3	8	1	2	2	3	1
21.	Delhi	R	-	-	1	-	-	-	-	4
		U	-	2	2	-	-	-	-	
Total			R	19	64	91	73	18	14	293
			U	7	26	44	22	14	4	125
Grand Total				26	90	135	95	32	22	418*

Actually, high TPR at primary stage in a large number of schools particularly in rural areas is a common phenomenon of the States like Andhra Pradesh, Bihar, J & K, Madhya Pradesh, Orissa, Rajasthan and U.P. which are considered to be educationally backward States from the point of view of universal elementary education.

In urban schools, however, the position is not that alarming even in the educationally backward States.

Most of the primary schools in all the States—both in rural and urban areas, are having the TPR between 31 and 50 as will be observed from the

* It includes Primary sections in middle and high schools.

FREQUENCY DISTRIBUTION OF SAMPLE SCHOOLS ACCORDING TO ACTUAL TEACHER PUPIL RATIOS (AT PRIMARY STAGE)

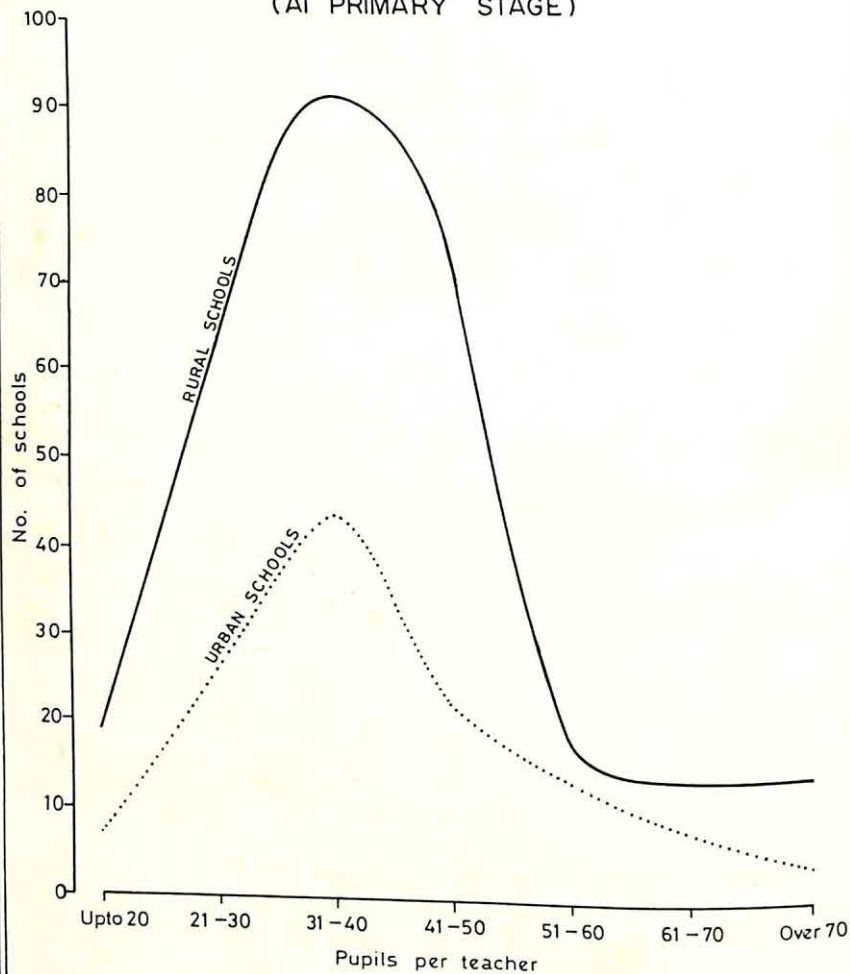


Fig. 3.1

graph (Fig. 3.1). While in the States like Haryana, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, U.P. and West Bengal, larger number of schools fall in the category of 31 to 40 students per teacher, the remaining States fall more in the category of 41 to 50 students per teacher. Smaller States like Meghalaya and Himachal Pradesh have a more favourable TPR and there a significant number of schools falls in the category of TPR below 30. In Delhi U.T., all the five primary schools covered by the study have a TPR below 40. In Meghalaya 6 out of 7 primary schools (including rural and urban schools) have a TPR below 30.

In Punjab, Rajasthan, Karnataka, Bihar, Assam, UP and J & K there are some schools which have even a TPR below 20.

TPR at Middle Stage

Table No. 3.5 gives the actual strength of teachers and students and the average TPR as revealed from the study for middle schools covered by the sample in different States.

Table No. 3.5

Actual Strength of Teachers and Students and TPR in 1982-83 at Middle Stage (Statewise)

S.No.	State/UT	Rural/ Urban	No. of Teachers	No. of Students	TPR
1	2	3	4	5	6
1.	Andhra Pradesh	R	59	2239	38
		U	14	587	42
2.	Assam	R	11	181	16
		U	15	545	36
3.	Bihar	R	53	1804	34
		U	28	428	15
4.	Gujarat	R	17	746	44
		U	15	687	46
5.	Haryana	R	19	490	26
		U	74	1558	21
6.	Himachal Pradesh	R	13	196	15
		U	0	0	-
7.	J & K	R	41	1107	27
		U	23	576	25
8.	Karnataka	R	35	1090	31

1	2	3	4	5	6
		U	41	1516	37
9.	Kerala	R	67	2078	31
		U	26	1290	50
10.	Madhya Pradesh	R	73	2108	29
		U	72	1635	23
11.	Maharashtra	R	113	3770	33
		U	61	2211	36
12.	Manipur	R	0	0	-
		U	17	610	36
13.	Meghalaya	R	19	790	42
		U	0	0	-
14.	Orissa	R	14	464	33
		U	20	461	23
15.	Punjab	R	42	717	17
		U	18	1013	21
16.	Rajasthan	R	42	728	17
		U	114	2380	21
17.	Tamil Nadu	R	54	1608	30
		U	132	4795	36
18.	Tripura	R	26	192	7
		U	4	64	16
19.	Uttar Pradesh	R	87	2403	28
		U	55	1108	20
20.	West Bengal	R	0	0	-
		U	24	617	26
21.	Delhi	R	17	454	27
		U	10	171	17

From Table No. 3.6 it will be observed that at the middle stage, the states with highest and lowest average TPRs for rural and urban schools covered by the study are as follows:

Table No. 3.6

**States with Highest & Lowest TPRs at Middle Stage
(State-level Averages)**

Rural

Highest

1:44

Gujarat

Lowest

1:7

Tripura

Urban

Highest

1:50

Kerala

Lowest

1:15

Bihar

Again, the above aggregated figures do not reflect the true picture of the situation obtaining in the schools.

Table No.3.7 gives the frequency distribution of TPR in various class intervals at middle stage in different States. It will be observed from this table that compared with primary stage, the situation gives an improved picture at the middle stage. Most of the middle schools have a TPR between 1:31 to 1:40. There are a few schools which go up to 1:50. In some stray cases the TPR is between 1:51 and 1:60. In Tamil Nadu, however, there are 3 (out of 12) urban schools where the TPR is 51 to 60. There is one urban middle school in Andhra Pradesh where TPR is 61 to 70. Similarly, there is one rural middle school in Andhra Pradesh and one urban middle school each in Manipur and Rajasthan where TPR is over 1:70. There are however, a number of middle schools in practically all the States having TPR below 20 or in the category of 21 to 30. Rural middle schools are generally having a lower TPR as compared to urban middle schools.

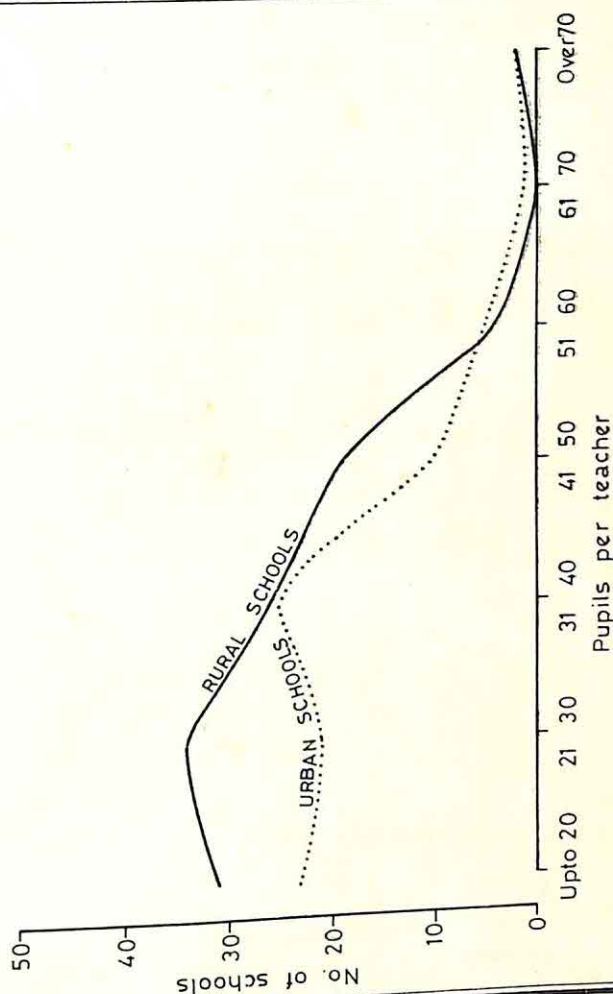
Table No. 3.7**Actual Teacher-Pupil Ratios at Middle Stage****Statewise Frequency Distribution of Schools Having Different Teacher-Pupil Ratios**

S. No	States/ UTs	Rural/ Urban	TPR below 20	21-30	31-40	41-50	51-60	61-70	70+	Total schools in the sample
1	2	3	4	5	6	7	8	9	10	11
1.	Andhra Pradesh	R	2	1	3	-	1	-	2	9
		U	-	-	2	1	-	1	-	4
2.	Assam	R	2	-	-	-	-	-	-	2
		U	1	-	1	1	-	-	-	7
3.	Bihar	R	1	2	3	1	-	-	-	5
		U	3	1	1	-	-	-	-	

1	2	3	4	5	6	7	8	9	10	11
4.	Gujarat	R	-	1	1	5	1	-	-	8
		U	1	-	1	1	-	-	-	3
5.	Haryana	R	-	2	-	-	-	-	-	2
		U	1	1	-	1	-	-	-	3
6.	Himachal Pradesh	R	1	1	-	-	-	-	-	2
		U	-	-	-	-	-	-	-	-
7.	J & K	R	1	3	1	2	-	-	-	7
		U	-	2	-	-	-	-	-	2
8.	Karnataka	R	-	3	3	-	-	-	-	6
		U	1	4	-	1	-	-	-	6
9.	Kerala	R	-	-	1	2	-	-	-	3
		U	-	-	-	1	1	-	-	2
10.	Madhya Pradesh	R	3	3	5	1	1	-	-	13
		U	-	3	4	-	-	-	-	7
11.	Maharashtra	R	3	7	5	4	-	-	-	19
		U	-	2	5	1	1	-	-	9
12.	Manipur	R	-	-	-	-	-	-	-	-
		U	-	1	-	-	-	-	1	2
13.	Meghalaya	R	-	-	1	1	-	-	-	2
		U	-	-	-	-	-	-	-	-
14.	Orissa	R	-	2	-	1	-	-	-	3
		U	1	1	2	-	-	-	-	4
15.	Punjab	R	4	-	-	-	-	-	-	4
		U	1	1	-	-	-	-	-	2
16.	Rajasthan	R	6	1	1	-	-	-	-	8
		U	2	-	4	1	-	-	1	8
17.	Tamil Nadu	R	2	3	-	1	-	-	-	6
		U	1	4	3	1	3	-	-	12
18.	Tripura	R	1	-	-	-	-	-	-	1
		U	2	-	-	-	-	-	-	2
19.	U.P	R	5	4	2	1	1	-	-	13
		U	7	-	1	1	-	-	-	9
20.	West Bengal	R	-	-	-	-	-	-	-	-
		U	1	1	1	-	-	-	-	3
21.	Delhi	R	-	1	-	-	-	-	-	1
		U	1	-	-	-	-	-	-	1
Total		R	31	34	26	19	4	-	2	116
		U	23	21	25	10	5	1	2	87
Grand Total			54	55	51	29	9	1	4	203*

* It includes middle sections of high schools.

FREQUENCY DISTRIBUTION OF SAMPLE SCHOOLS ACCORDING TO ACTUAL TEACHER PUPIL RATIOS (AT MIDDLE STAGE)



NIEPA/PNTyagi/16785

Fig. 3.2

TPR at High School Stage

At the high school stage, the position regarding teacher strength and student strength and average TPR as revealed from the study in different States is given in Table 3.8. It will be observed from Table 3.9 that the highest and lowest TPRs for rural schools are in Bihar (1:38) and in Madhya Pradesh and Himachal Pradesh (1:15) respectively; in urban schools they are in Andhra Pradesh (1:68) and in Punjab (1:15) respectively.

Table No. 3.8

**Actual Strength of Teachers and Students and TPR in
1982-83
At High School Stage (Statewise)**

S.No	State/UT	Rural/ Urban	No.of Teachers	No.of Students	TPR
1	2	3	4	5	6
1.	Andhra Pradesh	R	63	1894	30
		U	5	342	68
2.	Assam	R	0	-	-
		U	10	384	38
3.	Bihar	R	13	497	38
		U	0	-	-
4.	Gujarat	R	25	800	32
		U	24	500	21
5.	Haryana	R	27	554	21
		U	40	833	21
6.	Himachal Pradesh	R	6	93	15
		U	0	0	-
7.	J & K	R	13	245	19
		U	0	-	-
8.	Karnataka	R	56	1909	34
		U	-	-	-
9.	Kerala	R	47	971	21
		U	9	422	47
10.	Madhya Pradesh	R	17	254	15
		U	25	758	30
11.	Maharashtra	R	133	2807	21
		U	75	1800	24

1	2	3	4	5	6
12.	Manipur	R	15	381	25
		U	0	-	-
13.	Meghalaya	R	14	288	20
		U	37	696	19
14.	Orissa	R	29	524	18
		U	18	465	26
15.	Punjab	R	19	649	34
		U	39	593	15
16.	Rajasthan	R	21	565	27
		U	9	153	17
17.	Tamil Nadu	R	47	1180	25
		U	103	3213	31
18.	Tripura	R	-	-	-
		U	-	-	-
19.	Uttar Pradesh	R	26	632	24
		U	8	236	30
20.	West Bengal	R	115	2598	23
		U	26	707	27
21.	Delhi	R	-	-	-
		U	-	-	-

Table No. 3.9

**States with Highest and Lowest TPRs
(High school stage)**

Rural

Highest	1:38 in Bihar
Lowest	1:15 in Madhya Pradesh and Himachal Pradesh

Urban

Highest	1:68 in Andhra Pradesh
Lowest	1:15 in Punjab

At the high school stage, the position regarding TPR is better as compared to the primary and middle stage. Table 3.10 tells us that most of the high schools have a TPR between 1:21 to 1:30. There is a sizable number having TPR below 20. There are a few schools with TPR which varies from 31 to 40. In Andhra Pradesh out of 8 high schools covered by the study, 3 have a TPR between 61 and 70. This is a unique position

1	2	3	4	5	6	7	8	9	10	11
12.	Manipur	R	-	1	-	-	-	-	-	1
		U	-	-	-	-	-	-	-	-
13.	Meghalaya	R	-	1	-	-	-	-	-	1
		U	1	1	-	-	-	-	-	2
14.	Orissa	R	2	1	-	-	-	-	-	3
		U	-	1	-	-	-	-	-	1
15.	Punjab	R	1	1	-	-	-	-	-	2
		U	1	2	-	-	-	-	-	3
16.	Rajasthan	R	1	2	-	-	-	-	-	3
		U	2	-	-	-	-	-	-	2
17.	Tamil Nadu	R	1	2	-	1	-	-	-	4
		U	-	4	2	-	3	-	-	9
18.	Tripura	R	-	-	-	-	-	-	-	-
		U	-	-	-	-	-	-	-	-
19.	U.P.	R	2	-	2	-	-	-	-	4
		U	-	2	-	-	-	-	-	2
20.	West Bengal	R	2	2	1	1	-	-	-	6
		U	1	-	1	-	-	-	-	2
21.	Delhi	R	-	-	-	-	-	-	-	-
		U	-	-	-	-	-	-	-	-
Total		R	16	26	12	4	1	2	-	61
		U	8	13	9	2	3	1	-	36
Grand Total			24	39	21	6	4	3	-	97

Inadequate Essential Furniture and Equipment

The role of a teacher in attracting students to schools and retaining them in class rooms as also in providing reasonably satisfactory standard of teaching-learning depends to a large extent on the provision and availability of certain essential facilities in schools. Table Nos. 3.11, 3.12 and 3.13 show the extent to which certain essential facilities like 'tat pattis', blackboards, science kits, library books and games material are available in schools at different stages.

Table 3.11 shows that out of 324 primary schools covered by the study, as many as 142 primary schools (43.8%) do not have any furniture for students to sit on. In 98 schools (65 rural and 33 urban) i.e. in 30.2% schools, there are not even 'tat pattis' for them. 16 schools do not have blackboards in class rooms. There are no science kits in as many as 134 primary schools. In 171 primary schools there is no material for games and sports. Maps and charts are not available in 43 schools.

FREQUENCY DISTRIBUTION OF SAMPLE SCHOOLS ACCORDING TO ACTUAL TEACHER PUPIL RATIOS (AT HIGH SCHOOL STAGE)

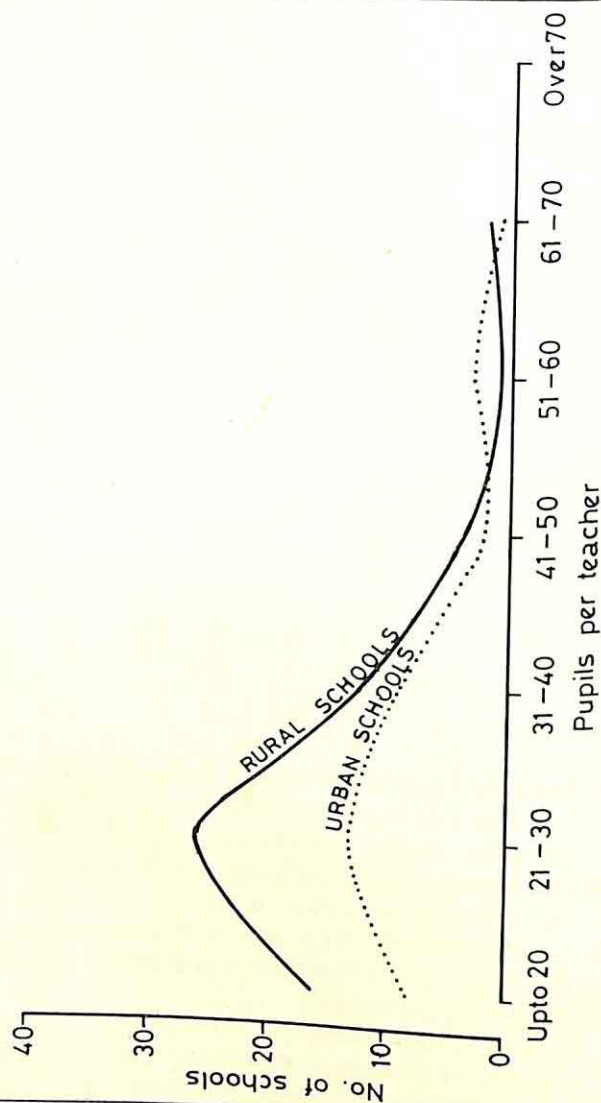


Fig. 3.3

Even among the middle schools, 46 out of 156 (29.5%) do not have any furniture for students. 60 schools (38.5%) do not have even 'tat pattis'. About 90 schools (57.7%) do not have any science equipment for teaching purposes. 14 schools do not have any library.

What is still more alarming is the fact that out of 100 high schools surveyed, 47 do not have even science kits, what to talk of science laboratories. One school does not have any library worth the name and two do not have any games or sports material. The teachers' helplessness in providing proper guidance to students in such a situation and for poor performance of the latter in Boards' high school examinations and the games and sports activities etc. can be very well appreciated.

Fewer Blackboards

As regards adequacy or inadequacy of the furniture and equipment for schools, it is clearly borne out by the study that nearly half the primary schools do not have adequate furniture for teachers. Only 60% of primary schools have adequate number of blackboards and 35% do not have the required number.

Similarly, at the middle stage, only 47% rural and 41% urban schools have adequate furniture for their teachers; only about 50% schools have maps and charts in adequate number and only 45% schools have adequate science kits; only 37% schools have adequate quantity of games and sports materials.

At the high school stage on the whole the position is, however, considerably better in this behalf as about 80% schools have adequate number of blackboards, over 50% do have adequate science equipment and in so far as library books are concerned, nearly 70% schools have them adequately. About 57% rural and 73% urban high schools also have adequate games and sports equipment.

Table No. 3.11

Availability of Essential Furniture etc. in Schools PRIMARY STAGE

PRIMARY SCHOOLS								
		Adequate		Inadequate		Not at all		
		No. of Schools	%	No. of Schools	%	No. of Schools	%	
1	2	3	4	5	6	7	8	
1.	Furniture for Teachers	R	93	40.61	119	51.97	17	7.42
		U	41	44.09	49	52.69	3	3.22

1	2		3	4	5	6	7	8
2.	Furniture for Students	R	29	12.83	89	39.38	108	47.79
		U	15	16.13	44	47.31	34	36.56
3.	Tat Pattis	R	66	30.70	84	39.07	65	30.23
		U	28	31.82	27	30.68	33	37.50
4.	Blackboards	R	138	61.61	73	32.59	13	5.80
		U	56	61.54	32	35.16	3	3.30
5.	Maps & Charts	R	87	38.16	109	47.80	32	14.04
		U	56	61.54	42	46.15	11	12.09
6.	Science Kit	R	73	32.88	47	21.17	102	45.95
		U	30	33.71	28	31.46	31	34.83
7.	Equipment for Physical Science	R	2	0.94	22	10.38	188	88.68
		U	3	3.75	17	21.25	60	75.00
8.	Equipment for Biological Science	R	-	-	24	11.27	189	88.73
		U	3	3.90	18	23.38	56	72.73
9.	Library Books	R	45	20.45	83	37.73	92	41.82
		U	15	17.85	29	34.52	40	47.62
10.	Sports Materials	R	20	8.97	74	33.18	129	57.85
		U	10	1.16	34	39.53	42	38.84

Table No. 3.12

Availability of Essential Furniture etc. in Schools
MIDDLE STAGE

1	2		Adequate		Inadequate		Not at all	
			No. of Schools	%	No. of Schools	%	No. of Schools	%
1	2		3	4	5	6	7	8
1.	Furniture for Teachers	R	44	47.31	47	50.54	2	2.15
		U	26	41.27	37	58.73	-	-

1	2		3	4	5	6	7	8
2.	Furniture for Students	R	15	16.13	45	48.39	33	35.48
		U	14	22.22	36	57.14	13	20.63
3.	Tat Pattis	R	26	28.26	33	35.87	33	35.87
		U	16	26.67	17	28.83	27	45.00
4.	Blackboards	R	69	74.19	24	25.81	-	-
		U	45	71.43	18	28.57	-	-
5.	Maps & Charts	R	50	53.76	41	44.09	2	2.15
		U	30	47.62	31	49.21	2	3.17
6.	Science Kit	R	40	45.45	21	23.86	27	30.68
		U	25	40.32	23	37.10	14	22.58
7.	Equipment for Physical Science	R	18	19.57	24	26.09	50	54.35
		U	11	17.74	21	33.87	30	48.39
8..	Equipment for Biological Science	R	16	17.39	18	19.57	58	63.04
		U	12	19.05	20	31.75	31	49.21
9.	Library Books	R	39	41.94	44	47.31	10	10.75
		U	22	34.92	37	58.73	4	6.35
10.	Sports Materials	R	35	37.63	38	40.86	20	21.52
		U	18	28.57	35	55.56	10	15.87

Table No. 3.13

Availability of Essential Furniture etc. in Schools
HIGH SCHOOL STAGE

1	2		Adequate		Inadequate		Not at all	
			No. of Schools	%	No. of Schools	%	No. of Schools	%
1	2		3	4	5	6	7	8
1.	Furniture for Teachers	R	40	63.49	23	36.51	-	-
		U	27	72.97	10	27.03	-	-

1	2	3	4	5	6	7	8
2.	Furniture for Students	R 30 U 21	47.62 58.33	30 14	47.62 38.89	3 1	4.76 2.78
3.	Tat Pattis	R 17 U 7	27.42 19.44	7 11	11.29 30.56	38 18	61.29 50.00
4.	Blackboards	R 50 U 30	79.37 81.08	13 7	20.63 18.92	- -	- -
5.	Maps & Charts	R 42 U 30	66.67 81.08	21 7	33.33 18.92	- -	- -
6.	Science Kit	R 20 U 12	34.48 33.33	7 8	12.07 22.22	31 16	53.45 44.44
7.	Equipment for Physical Science	R 35 U 23	55.56 62.16	23 13	36.51 35.14	5 1	7.94 2.70
8.	Equipment for Biological Science	R 31 U 23	50.00 62.16	25 13	40.32 35.14	6 1	9.68 2.70
9.	Library Books	R 43 U 26	68.25 70.27	19 11	30.16 29.73	1 -	1.59 -
10.	Sports Materials	R 36 U 27	57.14 72.97	25 10	39.68 27.03	2 -	3.18 -

Lack of Other Physical Facilities

In the matter of provision of physical facilities like classrooms, library room, craft room, staff room, play-ground, etc. the study reveals that the position can be stated to be satisfactory in so far as availability of classrooms is concerned as only 3 urban and 15 rural primary schools and 1 rural middle school do not have class rooms out of a total of 580 schools. But when it comes to other physical facilities, the position becomes disappointing. For example as borne out by Table 3.14 in 126 (48 urban and 78 rural) middle schools out of 156, and in 40 (14 urban and 26 rural) high schools, there is no library room. There is no craft room in most of the

schools, whether primary, middle or high. No facility exists by way of audio-visual room in practically all the schools. There are no playgrounds in 154 primary schools, 45 middle schools and 17 high schools.

Table No. 3.14

Statement Showing No. of Schools where Classrooms and Other Physical Facilities Exist or do not Exist

		Primary		Middle		High	
		Urban	Rural	Urban	Rural	Urban	Rural
1		2	3	4	5	6	7
1.	Classroom						
	Yes	90	215	63	92	37	63
	No	3	15	-	1	-	-
2.	Library Room						
	Yes	3	9	15	15	23	37
	No	90	221	48	78	14	26
3.	Reading Room						
	Yes	2	6	5	7	14	13
	No	91	224	58	86	33	50
4.	Common Room						
	Yes	6	2	3	10	5	8
	No	87	228	60	83	32	55
5.	Craft Room						
	Yes	2	2	7	10	19	22
	No	91	228	56	83	18	41
6.	Laboratories						
	Yes	4	-	13	15	27	46
	No	89	230	50	78	10	17
7.	Staff Room						
	Yes	15	22	24	25	32	53
	No	78	208	39	68	5	10

	1	2	3	4	5	6	7
8. Office Room							
Yes		39	62	48	68	37	59
No		54	168	15	25	-	100
9. Store Room							
Yes		26	43	25	37	26	41
No		67	187	38	56	11	22
10. Assembly Hall							
Yes		8	8	8	12	13	18
No		85	222	55	81	24	45
11. Audio-visual Room							
Yes		2		2	4	6	5
No		91	230	61	89	31	58
12. Hall for Indoor Games							
Yes		-	2	1	3	5	6
No		93	228	62	90	32	57
13. Playground							
Yes		46	123	41	70	29	54
No		47	107	22	23	8	9
14. Garden Land							
Yes		29	65	18	43	23	42
No		64	165	45	50	14	21
15. Dispensary							
Yes		2	1	2	-	4	1
No		91	119	61	93	33	62
16. Electricity							
Yes		32	47	41	49	35	56
No		61	183	22	44	2	7
17. Drinking Water							
Yes		60	119	48	73	34	56
No		33	111	15	20	3	7
18. Urinal facility							
Yes		32	43	28	36	29	46

	1	2	3	4	5	6	7
	No	61	187	35	57	8	17
19. Lavatory facility							
Yes		20	24	23	16	18	32
No		73	206	40	77	19	31

Drinking Water

Table No. 3.14 shows that even essential facility like drinking water is not properly available in 144 primary schools (111 rural and 33 urban); 35 middle schools (20 rural and 15 urban) and 10 high schools (7 rural and 3 urban). Similarly, urinal and lavatory facilities are wanting in nearly half of the schools.

Operation Blackboard

It is significant that the National Policy on Education (1986) lays special stress on provision of essential facilities to all primary schools in the country in a phased manner. It mentions that education of comparable quality will be ensured for all. This is to be achieved by taking up a massive programme, symbolically called "Operation Blackboard".

The purpose of "Operation Blackboard" is to ensure provision of essential facilities in all primary schools, such as two reasonably large rooms usable in all weather, necessary toys and games materials, blackboards, maps, charts and other learning material. The provision of these facilities is to be taken up in a phased manner throughout the country following the conduct of a survey and formulation of block level projects for the provision of these facilities. Besides, an additional teacher, a woman teacher wherever possible, is also to be appointed in all single teacher schools as a part of "Operation Blackboard".

The phasing of the Project being contemplated is 20 per cent of Blocks/Municipal wards to be covered in 1987-88, 30% in 1988-89 and 50% in 1989-90.

The selection of Blocks is being done by choosing at least one Block per district with preference to Blocks with higher population of Scheduled Castes/Scheduled Tribes or by selecting blocks with regard to the probability of successful implementation of the operation or by covering blocks in the State in the order of their backwardness educationally.

With the allocation of Rs 800 crores for education during 1987-88 as against only Rs 352 crores during 1986-87 the "Operation Blackboard" has a fairly bright chance of being implemented. How far the states will be able

to actually realise the objectives of this priority programme is, however, yet to be seen.

Similar programme will also need to be mounted for removing deficiencies in essential physical facilities for middle and high schools very soon.

References

1. National Policy on Education, 1986, Ministry of Human Resource Development, Department of Education, Government of India, New Delhi, May, 1986.
2. Programme of Action, National Policy on Education, Ministry of Human Resource Development, Department of Education, Government of India, New Delhi, August, 1986.
3. Proceedings of the Conference of State Education Ministers, February, 1987.

Chapter IV

CLASS SIZE AND TEACHER EFFECTIVENESS

OF the Primay School teachers who responded to the questionnaires, nearly half (52.63%) feel that class-size is an important criterion for effective teaching; whereas another half (47.37%) feel that it is not an important criterion for effective teaching. The position does not vary considerably between rural, urban and tribal schools.

Table No. 4.1

Class-Size: Whether an Important Criterion for Effective Teaching?

Responses by Primary School Teachers

	YES	NO	TOTAL
RURAL	116	108	224
URBAN	55	44	99
TRIBAL	9	10	19
	180	162	342

Teaching Techniques More Important

Majority of the teachers however feel as per Table 4.2 that it is the techniques that they use, which are more important than the class size. These techniques include good presentation of the lesson by them, maximum use of teaching aids in order to bring clarity and to create interest of students in studies, use of innovative methods in teaching and making the teaching-learning relevant to the needs of the students. This is particularly necessary for primary classes where sustaining interest of the students in studies assumes great importance.

The teacher is, thus, the key figure in teaching-learning process. It is the teacher who can, by his innovative ways, make the class lively, pay the required attention to the pupils and win their confidence. For him the pupil has to be the central point. Everything, whether it is his lesson, or his teaching aid or his testing device, all of them have to be such as to suit the needs and interests of the pupil.

Table No. 4.2
Perception of Teachers About Certain Effective Factors
for Pupil Learning
(at Primary Stage)

		Most effective	Somewhat effective	Not effective
Good presentation and description of the lesson by the teacher	R	89	27	108
	U	48	6	45
	T	8	1	10
Maximum use of teaching aids to bring clarity and to create interest towards studies	R	72	42	110
	U	34	21	44
	T	6	3	10
Attention capturing ability of the teacher	R	75	37	112
	U	35	18	46
	T	8	1	10
Introduction of novel and unique ideas in teaching	R	58	51	115
	U	25	24	50
	T	5	4	10
Checking recapitulating capacity of students from time to time	R	63	47	114
	U	32	20	47
	T	5	4	10
Adequacy, relevance and correctness in the content taught	R	50	55	119
	U	29	23	47
	T	4	5	10

R = Rural, U = Urban, T = Tribal

NB: The respondents (342) include teachers of primary schools including single-teacher schools.

It is a pity that a sizable proportion of teachers do not consider their attention capturing ability as instrumental in making pupil learning effective. It is only through their orientation to the new methods of teaching that they can realise the role, importance and effectiveness of their ability. In fact, teaching aids, new technology, relating education to environment etc. would not only be beneficial to pupils but would also make teachers' own task easier and interesting.

Table 4.3 proves this point because practically all the primary school teachers do say that maximum use of blackboards, for instance, is very useful for better teaching-learning. Similarly, use of charts and pictures, blocks and models, and visits to neighbouring places of interests are very useful devices for making the teaching-learning effective.

Table No. 4.3

**Opinion of Teachers About Usefulness of Various
Teaching Devices in Primary Schools Including Single
Teacher Schools**

(N=342)

		For classes I-III			For classes IV-V		
		Very Useful	Useful	Not Useful	Very Useful	Useful	Not Useful
Use of black-board	R	195	19	10	183	23	18
	U	83	8	8	87	3	9
	T	13	2	4	10	1	8
Using charts & pictures for concept formation	R	156	60	8	159	45	20
	U	65	25	9	64	25	10
	T	10	5	4	9	2	8
Using science charts for children with science apparatus	R	99	100	25	115	75	34
	U	42	38	19	44	38	17
	T	6	5	8	8	3	8
Taking children to other schools and sharing the actual apparatus and machines	R	72	116	36	82	98	44
	U	27	48	24	31	47	21
	T	4	8	7	7	3	9

Using charts of	R	122	79	23	120	72	32
original	U	49	35	15	55	30	14
colour to	T	5	10	4	7	4	8
bring to students							
the idea of colours							
Taking students	R	132	72	20	126	67	31
outside and giv-	U	55	30	14	62	25	12
ing the idea of	T	6	8	5	7	3	9
colour through							
beauties of nature							
Simple display of	R	126	67	31	126	60	38
blocks and	U	59	23	17	57	25	17
models	T	8	5	6	7	3	9

NB: Out of 342 teachers of primary schools who have expressed their opinion, 224 belong to rural schools in different parts of the country.

Pupils' Involvement in Learning Activities

Table No. 4.4 shows that most teachers (89%) of primary schools do involve their pupils in activities like reciting poems, singing action songs, story telling, news reading etc. which contribute to better learning by pupils. Similarly a large percentage of teachers (76%) acquaint children with resources available in their area and their utilisations. They also create occasions in which children get opportunity of displaying things made by them. They organise subject-related competitions by involving children in their organisation.

Table No. 4.4

Teachers Involving Pupils in Activities Related to Teaching-Learning (Primary schools other than single teacher schools)

		YES	NO	TOTAL
Reciting poems, singing action songs, story telling, news reading etc.	R	165	19	184
	U	86	12	98
	T	9	1	10

Acquainting children with resources available in their area and their utilisation	R	143	41	184
	U	70	28	98
	T	10	—	10
Creating occasions in which children get opportunity of displaying things made by them	R	136	48	184
	U	67	31	98
	T	9	1	10
Conducting subject related competitions among themselves	R	126	58	184
	U	72	26	98
	T	1	9	10
Acquainting children with general day-to-day developments going on in the world	R	152	32	184
	U	71	27	98
	T	9	1	10
Any other	R	4	180	184
	U	—	98	98
	T	—	10	10

Table 4.5 shows that most primary school teachers also involve children in various co-curricular activities. Nearly 37% teachers including rural school teachers do always involve children in conducting physical activities. Another 45% do so sometimes. It is only 18% which never do so. 30% teachers always involve children in organising plays, dramas, prayers, action songs etc. 57% do so sometimes and only 13% never do so. Boy scouts and girl guides are not in existence in most primary schools and therefore these are not common activities in which students are generally involved.

Table No. 4.5

Primary School Teachers Involving Pupils in Various Co-curricular Activities

		Always	Sometimes	Never	Total
Conducting physical activities regularly or celebrating sports day	R	73	76	35	184
	U	34	50	14	98
	T	2	6	2	10

Organising plays, dramas, prayers, action songs etc.	R	54	107	23	184
	U	34	55	9	98
	T	1	8	1	10
Boy scouts/girl guides	R	18	21	145	184
	U	7	18	73	98
	T	—	3	7	10
Attending meetings with head of the school or with other teachers	R	80	80	24	184
	U	38	39	21	98
	T	1	7	2	10
Other co-curricular activities	R	23	56	105	184
	U	20	33	45	98
	T	—	6	4	10

At the middle and high school stage also, it is observed that teachers do adopt different techniques for improving performance of students. Table 4.6 shows that most of the teachers generally introduce the lesson either by relating it to a story or by giving suitable, relevant examples. Before beginning a lesson, an attempt is made to recapitulate the previous lessons. While teaching a lesson, difficult words are written on the blackboard and questions are asked at intervals to sustain interest of the students. Lesson is always related to day-to-day life activities by 37.5% rural teachers; 45% do so sometimes. Only 17.5% never do so. 27% of urban school teachers always and 48% sometimes try and relate their teaching with day-to-day life activities.

In a subject like mathematics good number of exercises on each topic are required to be solved by students in rural middle and high schools. About 53% teachers always do so in rural schools and a similar percentage also does it in urban and tribal schools. About 20% of the teachers do not always do so but resort to this practice occasionally and the remaining never do so.

Table No. 4.6

**Techniques Adopted by Middle and High School Teachers
for Improving Performance of Students**

		Always	Sometimes	Never	Total
Introducing the lesson by relating it to some story	R	45	54		
	U	26	51	21	120
	T	1	4	23	100
				3	8

Introducing the lesson and teaching it with suitable relevant examples	R	68	42	10	120
	U	57	33	10	100
	T	3	2	3	8
Before beginning a lesson, questions are asked about previous lesson	R	81	32	7	120
	U	58	33	9	100
	T	4	2	2	8
To sustain students' interest in the lesson timely questions are asked	R	52	52	16	120
	U	42	46	12	100
	T	4	3	1	8
Lesson is started after it has been read by students	R	37	49	34	120
	U	25	40	35	100
	T	3	—	5	8
Difficult words are written on blackboard	R	87	23	10	120
	U	73	16	11	100
	T	6	—	2	8
Teaching aids are used in support of the lesson	R	52	52	16	120
	U	54	36	10	100
	T	4	2	2	8
Project work is undertaken	R	15	46	59	120
	U	19	26	55	100
	T	1	1	6	8
Visits to museums etc. are arranged	R	15	51	54	120
	U	9	41	50	100
	T	—	3	5	8
Lesson is related to day-to-day life activities and their uses for people	R	44	56	20	120
	U	27	48	25	100
	T	—	5	3	8
During the lesson, practical demonstrations are conducted wherever necessary	R	31	54	35	120
	U	29	49	22	100
	T	1	4	3	8

Good number of exercises	R	64	24	32	120
on each topic are required	U	54	22	24	100
to be solved by students	T	4	1	3	8
in a subject like Maths					

Again, as per table 4.7, a fairly large proportion of teachers (69%) in rural middle and high schools always try and solve the subject difficulties of students. In urban schools nearly half (48%) always do so. Many teachers, however, do not guide the students in using the school library properly. The percentage of teachers who guide regularly is only 31.6 in rural schools and 30.0 in urban schools. One would very much wish that at least in middle and high schools where there is a provision of libraries, the library books and periodicals are fully utilised by students, and the teachers obviously have an important role to play in this behalf.

Table No. 4.7

Nature of Guidance Given by Middle and High School Teachers to Their Students

		Always	Sometimes	Never	Total
Solving their subject problems	R	83	32	5	120
	U	48	41	11	100
	T	2	5	1	8
Making them understand how to do their home task	R	53	56	11	120
	U	44	44	12	100
	T	2	3	3	8
Telling how to devote time for various subjects systematically	R	48	65	7	120
	U	48	40	12	100
	T	3	3	2	8
Helping them in using school library	R	38	59	23	120
	U	30	47	23	100
	T	3	1	4	8
Telling them about value of education and job opportunity	R	37	67	16	120
	U	38	41	21	100
	T	2	3	3	8

Any other	R	1	1	118	120
	U	—	1	99	100
	T	—	—	8	8

Fear of Punishment

Teachers of middle and high schools adopt various techniques for capturing students attention in the class. These are given in table 4.8. 62% of teachers regularly adopt the technique of frequent questioning of different students while they teach their lesson. 30% do so occasionally. The percentage of teachers who do not resort to this practice is almost negligible in schools whether rural, urban or tribal. Most teachers do try to make teaching interesting with illustrations and teaching aids. They also try to clear the doubts of weak students whenever considered necessary. It is interesting to note that only 50% of teachers do not try to capture the students attention by creating a fear of punishment in the minds of the students. Rest of the teachers do either always or sometimes try to make the students attentive in the class by frightening them that if they do not remain attentive, they will be punished.

Table No. 4.8

Techniques Used by Middle and High School Teachers for Capturing Students' Attention

		Always	Sometimes	Never	Total
Frequent questioning of different students	R	84	28	8	120
	U	54	40	6	100
	T	4	2	2	8
Making teaching interesting with illustrations and teaching aids	R	57	56	7	120
	U	47	42	11	100
	T	3	2	3	8
Creating fear of punishment	R	11	46	63	120
	U	10	43	47	100
	T	2	1	5	8
Conducting interesting quiz competition on the topic at the end of the period	R	25	74	21	120
	U	14	64	22	100
	T	1	4	3	8

Asking questions to the problem/weak students	R	51	53	16	120
	U	39	49	12	100
	T	1	5	2	8
Clearing doubts of weak students and testing them often	R	65	46	9	120
	U	38	51	11	100
	T	5	1	2	8
Giving more attention to all the students equally	R	82	29	9	120
	U	63	28	9	100
	T	5	2	1	8
Other techniques	R	3	2	115	120
	U	—	—	100	100
	T	—	—	8	8

Subject-related Activities

About involvement of children by teachers in activities related to learning, the percentage of middle & high school teachers who regularly acquaint students with their environment and the available resources in the area is rather small (only 29%). It is only sometimes that study tours or exhibitions are conducted. Even conducting subject related competitions among children is not a common feature as is evident from table 4.9.

Table No. 4.9

Involving Children by Middle and High School Teachers in Activities Related to Learning

		Always	Sometimes	Never	Total
Acquainting students with resources available in their area	R	44	56	20	120
	U	23	51	26	100
	T	—	3	5	8
Acquainting students with their environment	R	34	57	29	120
	U	35	42	23	100
	T	—	2	6	8
Conducting study tour	R	13	57	50	120
	U	17	44	39	100
	T	—	2	6	8

Organising exhibitions	R	6	58	56	120
	U	10	53	37	100
	T	—	2	6	8
Conducting subject related competitions among children	R	25	70	25	120
	U	19	65	16	100
	T	—	4	4	8
Preparing students for district/state/national level competitive examinations	R	29	58	33	120
	U	22	47	31	100
	T	3	1	4	8
Any other method	R	1	1	118	120
	U	2	3	95	100
	T	—	—	8	8

Special Coaching

Tables 4.10 to 4.13 show the position of middle and high school teachers paying special attention to the learning needs of students. There is a large proportion of teachers (77%) who make use of short term and weekly holidays by giving some home work related to the subject. They also ask students on holidays to prepare some charts and models related to their subjects so that the students may benefit from them. Most of the school heads pay special attention to weak students by encouraging their teachers to arrange extra coaching for them while other students do their written work in the school or by giving more home work to students in those subjects in which they are weak.

Extra attention to students who have failed in annual examinations is, however, not a common phenomenon. It is only 12% urban school teachers and 24% rural school teachers who coach students in the subject in which they have failed by taking extra classes in leisure hours. Even group teaching for all failed students is also not usually done.

Table No. 4.10

Teachers of Middle and High Schools Making Use of Short-term Weekly Holidays for Benefit of Students

		YES	NO	TOTAL
Give some homework related to subject	R	92	28	120
	U	76	24	100
	T	7	1	8

Give some previous question papers to answer	R	91	29	120
	U	70	30	100
	T	6	2	8
Give some written work	R	82	38	120
	U	68	32	100
	T	6	2	8
Ask them to prepare some charts and models in various subjects	R	56	64	120
	U	45	55	100
	T	3	5	8
Any other	R	2	118	120
	U	2	98	100
	T	—	8	8

Table No. 4.11

Number of School Heads Who Encourage Their Teachers to Give More Attention to Students in Addition to Regular School Activities

		YES	NO	TOTAL
Extra coaching to weak students while written work has been assigned to other students	R	167	75	242
	U	182	77	259
	T	10	7	17
More homework in weak subjects	R	197	45	242
	U	199	60	259
	T	12	5	17
Calling students at leisure hours and helping them	R	153	89	242
	U	156	103	259
	T	9	8	17
Giving extra care while teaching in the class itself	R	197	45	242
	U	214	45	259
	T	14	3	17
Other measures	R	27	215	242
	U	21	238	259
	T	2	15	17

Table No. 4.12

**Extra Attention Given to Failed Students by Teachers of
Middle and High Schools**

		Never	Sometimes	Always	Total
Coaching them in the failed subject in leisure hours	R	51	40	29	120
	U	59	29	12	100
	T	3	4	1	8
Coaching in the failed subjects in remedial teaching classes	R	53	43	24	120
	U	57	33	10	100
	T	3	5	—	8
Paying more attention to them in the class	R	20	26	74	120
	U	19	21	60	100
	T	2	3	3	8
More homework in weak subjects	R	33	32	55	120
	U	33	31	36	100
	T	3	4	1	8
Group teaching to all the failed students occasionally	R	55	44	21	120
	U	43	45	12	100
	T	6	2	—	8
Any other method	R	116	1	3	120
	U	96	3	1	100
	T	8	—	—	8

Table No. 4.13

**Teachers of Middle and High Schools Taking
Extra/Remedial Classes**

		Always	Sometimes	Never	Total
5 periods per week	R	20	69	31	120
	U	7	69	24	100
	T	1	6	1	8

6-11 periods per week	R	6	16	98	120
	U	-	15	85	100
	T	-	-	8	8
11-15 periods per week	R	-	3	117	120
	U	-	1	99	100
	T	-	-	8	8

Home Assignments

Table 4.14 gives the frequency with which home assignments are given by teachers to students. It will be observed that in single teacher schools by and large the practice of giving home assignments is non-existent. This is understandable because the teacher has to handle all the classes of primary school single handed besides attending to other administrative work and may not be in a position to cope with the work related to students' home assignments. In primary schools other than single teacher schools, however, the position is quite encouraging because as many as 216 out of 292 teachers (74%) give home assignments daily, 11% do so on alternate days, 5% do so once a week and a few use only holidays for the purpose. According to the study only 10 out of 292 primary school teachers (3%) never give any home assignment to their students. The position is almost similar in middle and high schools. 54% teachers give home assignments daily, 21% do so on alternate days and 14% once a week. The number of teachers who do not assign home work is negligible.

Table No. 4.14

Frequency with which Home Assignments are Given to Students

	In single Teacher Schools	In other Primary Schools	Middle/High Schools	Total Schools
Daily	-	216	124	340
Alternate Days	3	33	49	85
Holidays	-	11	17	28
Weekly	-	22	36	58
Never	47	10	2	59
	50	292	228	570

It is noted that teachers adopt different modes for checking home assignments of students. Only 27% of rural primary school teachers and 33% of urban primary school teachers take home assignment note books to their homes to check the students' work. Most of the teachers check home assignments of students during recess or other free period in the school (Table 4.15). In middle and high school classes (Table 4.16), 50% teachers check home work of students in free/vacant period and this is the practice in both rural and urban schools. The remaining teachers either do so at the beginning of the period or at the end of the period or by making students busy in some written work and that time is utilised by teachers for correcting home work note-books. Only about 15% check home work of students on holidays. The position does not vary between rural and urban schools in this connection.

Table No. 4.15

**Teachers Adopting Different Modes to Check Home
Assignments of Students
(in Primary Classes)**

		YES	NO	TOTAL
Take notebooks to home	R	61	163	224
	U	33	66	99
	T	5	14	19
Check after giving written work to students	R	16	208	224
	U	1	98	99
	T	3	16	19
Check them during recess and other leisure hours	R	153	71	224
	U	65	34	99
	T	18	1	19
Check them on Sunday and other holidays	R	42	182	224
	U	19	80	99
	T	7	12	19

Table No. 4.16**How Teachers Check Homework of Students
(in Middle/High School Classes)**

		Always	Sometimes	Never	Total
Check them at the beginning of the period	R	28	21	71	120
	U	15	26	69	100
	T	1	2	5	8
Check them at the end of period	R	20	23	77	120
	U	12	27	61	100
	T	3	1	4	8
Check them by announcing in class while students correct for themselves	R	13	42	65	120
	U	17	34	19	100
	T	1	3	4	8
Check them in free/vacant period and write comments mistakes and improvement	R	61	27	32	120
	U	51	29	20	100
	T	5	2	1	8
Check them with the help of class monitor	R	14	37	39	100
	U	7	33	60	100
	T	1	—	7	8
Check them on holiday	R	17	32	71	120
	U	15	30	55	100
	T	—	5	3	8
Any other	R	2	2	116	120
	U	4	4	92	100
	T	—	—	8	8

Poor Performance

Despite the fact that teachers of primary as well as middle and high schools adopt various techniques in order to sustain the interest of the students in studies and pay special attention to weak students, performance of the students is generally poor. It is not that children are so weak that they

are unable to follow the teacher. This is borne out by Table No. 4.17. 74% of teachers have expressed the opinion that fault does not lie with children. Nor is it because of language difficulty on the part of students or on the part of teachers. It is interesting that according to teachers, there are two basic reasons which result in poor performance of students and these are:

- (a) ignorance of parents about the importance and value of education for children; and
- (b) too much burden of work (other than that of school) which the students are required to do at home, with the result that they are not able to pay proper attention to their studies.

In so far as the attention to be paid by teachers towards studies of students is concerned practically all the teachers have stated in unequivocal terms that it is not wanting and that poor performance of students in studies is not because of them.

Table No. 4.17
Reasons for Students' Poor Performance
(at Primary Stage)

Reasons		NO	YES	TOTAL
Language difficulty	R	196	28	224
	U	80	19	99
	T	15	4	19
Children are so weak that they are unable to follow the teacher	R	145	79	224
	U	57	42	99
	T	16	3	19
Too much burden of work at home (other than that of school)	R	80	144	224
	U	44	55	99
	T	5	14	19
Inability of teacher to attend to such students	R	217	7	224
	U	98	1	99
	T	18	1	19

Untrained Teachers

However, there is a large proportion of teachers who are not trained and that may be one of the reasons for poor performance of the students in

studies. From Table 4.18, it will be observed that out of the total sample of 1088 teachers and heads of schools at different stages, only 30.4% (331/1088) are trained graduates. As many as 14% (158/1088) are those who do not possess any training degree or certificate, and most of such teachers are teaching in primary schools. 40% of single teacher schools have teachers who are not even Junior Basic. What is striking is that 89 teachers of even middle and high schools and 294 heads of schools possess only a Junior Basic Training Certificate.

Table No. 4.18

Distribution of Respondents: Training-wise

	Teachers of single teacher schools	Other primary school teachers	Middle/ High school teachers	Heads of schools	Total
Junior Basic	29	174	89	294	586
B.Ed.	1	—	133	197	331
M.Ed.	—	—	—	13	13
Untrained	20	118	6	14	158
Total	50	292	228	518	1088

The inadequacy or lack of pre-service training is a serious handicap in improving teacher effectiveness. It is an urgent necessity that such teachers are provided opportunity to remove their deficiency. Also, inservice training programmes in content as well as methodology should be organised on a large scale to increase professional competence of teachers.

Chapter V

TEACHERS' WORK LOAD

OF late, work load of teachers has become an important subject of controversy not only in India but throughout the world. Teachers want lesser work load, whereas demands on them from the profession as well as the society are on the increase. The National Union of Teachers of England, for instance, has recently stated that a considerable increase in work load has befallen teachers in the past 10 years. They have asked their education committee chairmen to reconsider the matter in the light of the changes that have taken place in the last 10 years because of curriculum development, use of new technology in schools, development of pre-vocational skills and technical education, impact of teaching children with special needs in ordinary schools; education for a multicultural society, development of new forms of pupil assessment and evaluation, mass unemployment and social instability, negative influence on children's attitude and behaviour of the media, parental disinterest and drugs.

The Forgotten Past

There was a time when in India, particularly because of the unique value system that it propounded, the teacher was held in very high esteem. It was so because the teacher was not only an example to be emulated by students but he always gave his best to them. He took pride in his 'shishyas' and took special pains to ensure that they were successful in their life. The relationship between the 'guru' and the 'shishya' (teacher and taught) crossed the boundaries of the class room, and the school. That was the relationship which was all prevading, all absorbing and there were no constraints as the 'shishya' could have free access to his 'guru' and the former was welcome at any time during school hours or outside, to have his difficulties solved, without, of course, being required to pay any additional sum of fee by way of 'tuition' as is common today.

There was no concept of work load for teachers as they accepted teaching as their mission. Teaching as a vocation or profession was considered something low and was contrary to the cultural heritage and

values of India. The sacred scriptures in all religions are full of praise of the role of teachers and they place teachers on a very high pedestal in the society.

Today's Insistence on Minimum Load

Gradually, the value system eroded, and so did the status and the prestige of the teacher. Today, private tuitions, for which large fees are charged, are rampant. A teacher is like a member of any other vocation and he earns his livelihood as any other salaried employee does. He is now expected to take a certain 'minimum' number of periods per week, which are 'prescribed' by the department of education. It is a different story that many teachers do not teach even the minimum periods prescribed, and yet another story that there is a continuous collective bargaining through teachers' unions and associations for reducing the minimum, on the plea that work load is 'heavy'.

Where there are schools which run in shifts, teachers try to get themselves posted there so that they have to work for fewer hours a day. In addition to the demand for reduced class size and consequential lesser amount of correction of home assignments, class assignments and periodical tests, teachers now ask for lesser number of working days, lesser working hours a day and fewer periods to teach. Besides, they normally do not show much interest in other co-curricular and non-teaching activities. Teaching a slow-learner or a first generation learner is considered as a burden. They shun work which involves rapport with parents and community.

Table 5.1 reveals the number of periods actually taught by different categories of teachers covered by the sample.

Table No. 5.1

Actual Teaching Load of Teachers

Frequency distribution of headmasters and teachers taking certain number of periods per week

	Periods taught per week					Total
	1-15	16-20	21-30	Above 30	Not taking any class	
Headmasters	154 (29.7)	67 (12.9)	86 (16.6)	198 (38.2)	13 (2.5)	518 (100)

Middle/High School Teachers	-	14 (6.1)	88 (38.6)	126 (55.3)	-	228 (100)
Primary School Teachers	3 (1.0)	7 (2.4)	26 (8.9)	256 (87.7)	-	292 (100)
Total	157 (15.1)	88 (8.5)	200 (19.3)	580 (55.8)	13 (1.3)	1038 (100)

N.B. Figures within brackets indicate percentages

The Prescribed Norms

The above table may be analysed keeping in view the prescribed work-load for teachers. Different State Governments have prescribed different minimum number of periods per week for teachers at different stages of education. It is illustrated below:

Norms of Work Load for Teachers

- I. **Primary Stage:** Normally, there is one teacher per class (i.e. one section of the class) in all States/UTs. He is required to teach all the subjects of that class. In Haryana, one JBT teacher is provided for first 50 students and thereafter, it is one teacher per 45 students. In Maharashtra, for a single teacher school (standards I to IV), one teacher is provided upto 40 students.
- II. **Middle Stage:** 30 periods per week in Himachal Pradesh and Maharashtra; 28 periods (of 45 minutes each) per week in Manipur; 39 periods in Haryana and 36 periods per week in Punjab. In Haryana, for heads of middle schools, 30 periods per week are laid down if enrolment in school is 500 or less, and 24 periods per week if enrolment exceeds 500.
- III. **High School Stage:** For teachers in Assam and Manipur: 28 periods per week (45 minutes duration); Himachal Pradesh, Maharashtra, Meghalaya and Punjab: 30 periods; West Bengal: 36 periods (25 for class teaching and 11 for tutorial classes and correction of home work); Karnataka: 26 periods; Haryana: 39 periods; J & K: 24 periods; Gujarat: 21 periods for actual teaching and 9 periods for presence in the school; Tripura: 29 periods minimum and 39 periods

maximum in a week. For heads of schools in Tripura: 12 periods per week; Haryana: 12 to 18 periods per week.

The Gap

In no State less than 20 periods per week have been prescribed for a teacher and yet we find from Table 5.1 that there are 8.5% teachers in the schools of the sample who teach only 16 to 20 periods per week. 19.3% teachers teach only between 21 to 30 periods per week. There are many States which prescribe a minimum of 30 periods or more. But both at the primary and middle/high school stages, there is a large number of teachers who teach for lesser number of periods than prescribed. Only 55.8% (580 out of 1038) teachers teach more than 30 periods per week. Category-wise only 87.7% primary school teachers and only 55.3% middle and high school teachers teach for more than 30 periods a week. 2.5% of school heads do not take any class and, therefore, do not teach at all. The situation needs to be checked urgently so that fuller utilisation is made of teachers, who constitute a precious human resource.

Actual Working Days

It is not merely the question as to how many periods does a teacher actually teach per week. Even more important is the question for how many days does a teacher work in a year. Table 5.2 gives an analysis of the information supplied by headmasters/headmistresses about the days the schools covered by the sample have actually worked during the year 1981-82.

Table No. 5.2

Actual Working Days in a Year in the Sample Schools

N=568

		Less than 200	201- 210	211- 220	221- 230	231- 240	241- 250	No in- ference
Primary Schools	R	6	12	36	27	33	17	13
	U	13	12	32	34	23	22	5
	T	1	—	4	2	1	3	3
Middle/High Schools	R	7	12	28	7	26	14	4
	U	13	12	36	21	22	12	2
	T	—	—	—	2	1	—	—

Single Teacher Schools	R	4	6	10	6	8	4	2
	U	-	-	-	-	-	-	1
	T	1	2	1	2	-	2	1
Total		45	56	147	101	114	74	31
R=Rural,		U=Urban,		T=Tribal.				

According to Table 5.2 about 8% schools have worked for less than 200 days in a year, about 18% for less than 210 days, and 51.8% (cumulative percentage) for less than 220 days. Thus, nearly half the schools have worked for less than the days which are generally prescribed as the minimum working days for schools. There are States which prescribe even higher number of working days for schools.

The position about actual working days in schools, however, is not too bad as compared to colleges and universities where it is common knowledge that many of them work for only 80 to 90 days in a year. Even the UGC Committee on Central Universities has recently come on record in this behalf.

Non-teaching Assignments

There are a variety of non-teaching jobs which teachers are expected to perform in addition to their normal teaching work. Table 5.3 lists various non-teaching assignments which middle and high school teachers should ordinarily perform. It is, however, observed that most of the teachers do not engage themselves in such work. Even co-curricular activities which form an integral part of teaching-learning process are attended to only by a small proportion of teachers as only 35% rural teachers and 37% urban teachers involve themselves in the organisation of such activities. Other activities like science club, audio-visual incharge, NCC/scouts incharge, library incharge, etc. are performed by only an insignificant number of teachers. The position does not differ between rural, urban and tribal schools.

Table No. 5.3
Additional Assignments Done by Middle and High School
Teachers besides Normal Teaching of Subjects

		Yes	No	Total
Science Club	R	14	106	120
	U	13	87	100
	T		8	8
Physical education activities	R	25	95	120
	U	16	84	100
	T	2	6	8
Audio-visual incharge	R	14	106	120
	U	8	92	100
	T	-	8	8
NCC/Scouts incharge	R	15	105	120
	U	12	88	100
	T	-	8	8
Hostel wardenship	R	4	116	120
	U	5	95	100
	T	2	6	8
Library incharge	R	11	109	120
	U	17	83	100
	T	1	7	8
Examination incharge	R	38	82	120
	U	37	63	100
	T	1	7	8
Co-curricular activities incharge	R	43	77	120
	U	37	63	100
	T	3	5	8
Any other	R	28	92	120
	U	17	83	100
	T	2	6	8

Administrative Load

The time spent by heads of primary and middle/high schools in different types of work is indicated in table 5.4. About 38% primary school heads up to 10% of their time on administrative work; another 39% spend up to 20% of their time on such work. Only few headmasters of primary schools spend larger time on administration. But in middle/high schools, the proportion of time spent on administrative work by heads of schools increases. About 22% spend 21-30% of their total time on administration; about 28% spend 31-50% of their time for the purpose.

On supervision and guidance of teachers and on student services and community work, heads of primary, middle and high schools do not devote much of their time. Most of them spend only upto 10% of their total time on such activities. Actually, these activities are very important for effective educational management and should occupy larger proportion of their time. Since most heads of schools do not teach even for the prescribed minimum number of periods, they should pay more attention to guidance of teachers and community work.

Table No. 5.4

Time Spent by Heads of Schools for Different Activities
N=518

Activities		Percentage of total time spent										Total
		Upto 10%	11- 20%	21- 30%	31- 40%	41- 50%	51- 60%	61- 70%	71- 80%	81- 90%		
Admini- strative Work	P	111	114	35	13	10	4	2	1	2	292	
	M/H	25	54	55	36	37	10	3	2	4	226	
Teaching Work	P	21	14	12	12	37	65	54	66	11	292	
	M/H	14	40	52	35	29	21	17	16	2	226	
Super- vision and guidance of teachers	P	220	52	8	3	6	2	1	-	-	292	
	M/H	121	70	27	7	1	-	-	-	-	226	

Student services	P	270	20	2	-	-	-	-	-	-	292
	M/H	179	41	6	-	-	-	-	-	-	226
Community Work	P	283	8	1	-	-	-	-	-	-	292
	M/H	217	8	1	-	-	-	-	-	-	226
Other activities	P	289	2	1	-	-	-	-	-	-	292
	M/H	222	1	3	-	-	-	-	-	-	226

P=Primary, M/H=Middle/High

Teacher and the UEE

In a developing country like India, it is imperative that all children of the school going age are brought to school. The role of the teacher in increasing enrolment of students, their retention and achievement cannot thus be under-estimated. This is a developmental role which a teacher has to discharge today in addition to his normal instructional work.

The Government of India has of late given a very high priority to the programme of Universal Elementary Education (UEE). One of the important responsibilities of a teacher of a primary school in this connection is to conduct annually a census of the children of school going age in the vicinity of the school. The annual census has to be followed by an enrolment drive in which a rapport with the parents has to be established by the teacher/headmaster with a view to bringing the children to school.

Poor Enrolment Drive

Table 5.5 reveals that out of 342 primary school teacher respondents, there are as many as 104 i.e. 30.4% who say that annual census of children of school going age is not conducted by them. This is obviously quite a high percentage and calls for serious attention by the authorities. In tribal areas, nine out of ten teachers do not conduct such census. It is no wonder that enrolment of tribal children should receive a strong setback under the programme of universal primary education for 6-11 age group. In rural areas, there are 25.8% teachers who do not engage themselves in annual census. In urban areas, the percentage of such teachers is 37.3. Annual census by the school teachers is the first pre-requisite of universal elementary enrolment and deserves utmost attention if the programme of UEE is to be successful by 1995 as targetted. If the teachers do not know which children in their neighbourhood are non-enrolled, how can they conduct an enrolment drive!

Table No. 5.5
Primary School Teachers Who Conduct Annual Census of
School Going Age Children in Their Area

	Yes	No	Total
RURAL	166	58	224
URBAN	62	37	99
TRIBAL	10	9	19
TOTAL	238(69.6%)	104(30.4%)	342(100%)

An argument is often advanced — by teachers generally, that it is not possible for them to conduct annual census (a) because they live away from the school and (b) because their teaching load does not permit them to undertake non-teaching activities.

Table 5.6 shows that out of 570 teacher respondents, 424 i.e. 74% either live on the campus or within 1 to 3 kms of their school. Another 13% live within 4-6 kms. Even out of 342 primary school teachers, 195 live within 3 kms of the school. It should, therefore, not be difficult for teachers to visit the households and find out the particulars of non-enrolled children. Even from the point of view of mode of transport used by teachers to reach their school (Table 5.7), it is observed that most of the teachers either walk down or use cycles. Accessibility is, therefore, not the problem as it does not involve any extra expenditure on the part of teachers to conduct the enrolment drive.

Table No. 5.6
Distance Travelled by Teachers to Reach Their Schools

Distance travelled	No. of Teachers			
	Single-Teacher Schools	Other Primary Schools	Middle/High Schools	Total Teachers
Living on campus	16	74	3	93
1-3 km	21	121	189	331
4-6 km	3	50	23	76
7-9 km	3	23	2	28
10-12 km	1	13	4	18
13-15 km	6	11	7	24
Above 15 km				
	50	292	228	570

Table No. 5.7

Mode of Travel Used by Teachers to Reach Their Schools

Mode of travel Used	Teachers of Single teacher Schools	Other Primary teachers	Middle/ high school teachers	Total teachers
Cycling	24	89	52	165
Walking	19	164	131	314
By Bus	7	39	38	84
No response	-	-	7	7
				570

As regards the question of finding time by teachers to undertake such activities as annual census of school-going age children and conducting enrolment drive, in addition to their normal teaching, it is found that nearly half of the school heads (51.2%) do not utilise holidays for the purpose. Nearly half the primary teachers (53.1%) and 44.5% middle and high school teachers do not work on holidays for these activities. 62% of school heads do not use or wish to use their leisure time for such non-teaching functions. The position regarding teachers is not different in this matter.

The Job-Chart

As per table 5.8, out of 224 rural primary school teachers who responded to this item, only 31 always extend their help to BDOs, 93 do it only sometimes and 100 never do so. Similarly, in matters like conducting general census or assisting in conduct of polls, only 62 always extend their help, 109 do it sometimes whereas 53 never do so. These are, however, matters which do not strictly fall within the duties of teachers. But when it comes to activities connected with enrolment and retention of children, teachers should extend their helping hand.

This really raises the question of the job-chart of teachers. With the linking of education to development and the constitutional obligation to provide elementary education to all children, it is to be realised that it is only through active participation of teachers that elementary education can be made universal and illiteracy eradicated from the country. The teacher's role in UEE is, therefore, crucial. Consequently, the job chart of teachers also requires to be changed to incorporate this important function, which is a developmental function of a teacher in the context of our country.

Table No. 5.8

Primary School Teachers Helping BDOs and Others in Their Work

		Always	Sometimes	Never
Helping BDO	R	31	93	100
	U	10	21	68
	T	1	9	9
Helping in Poll/General Census	R	62	109	53
	U	23	47	29
	T	2	10	7
Other work	R	7	13	204
	U	5	11	83
	T	0	0	19

R = Rural; U = Urban; T = Tribal

Poor Utilisation of Incentives for Pupils

As is known, the Government provides a variety of incentives to attract children to schools and to increase their attendance once they are enrolled in schools. The schools of the sample under study were asked to inform about the extent of utilisation of these incentives on a three-point scale; fully utilised, partly utilised and not at all utilised. According to the responses received from schools, the position is not encouraging. Table 5.9 column 5 shows that except for SC students, the extent of non-utilisation of the incentives is very high.

There are normally provisions for award of scholarships to SC and ST students, girls, children of other backward communities, of ex-servicemen and of refugees. There are also scholarships for general students. From the response of the schools it is evident that 138 out of 213 (64.7%) rural schools which responded do not at all avail of scholarships meant for general students, 140 out of 204 rural schools (72.5%) which responded in this behalf do not at all utilise the scholarships for girls, 122 out of 206 rural schools (59%) which responded on this point do not at all utilise scholarships for other backward communities. Even scholarships reserved for ST students are not at all utilised by 199 out of 211 (56%) rural schools which

responded in the study from different parts of the country.

Even free uniforms are not utilised by 110 out of 209 (52.6%) rural schools which responded. The position regarding mid-day meals is not different. Nor is the position very much different in urban schools in case of most of these incentives.

The above position which is based on personal investigation by the research assistants who paid visits to the sample schools located all over the country, should cause concern to all those who are involved in policy making, planning, implementation of the schemes for incentives and supervision of the schools. It is a sad commentary on our educational system in general and teachers and heads of schools in particular if they do not respond to the urgent and priority need of the country which is committed both constitutionally as well as through its five-year plans to provide free and compulsory education to each child up to the age of 14. There is also an immediate necessity for strengthening the monitoring of these schemes so that the goals and objectives of educational development are duly realised in the shortest possible time.

Table No. 5.9

Number of Schools Making Use of Various Incentives

Incentive	Type of School	Fully utilised	Partly utilised	Not at all utilised	No response	Total
1	2	3	4	5	6	7
Scholarships for general students	R	50	25	138	69	282
	U	61	17	128	54	260
	T	6	-	18	2	26
Scholarships for SC Students	R	121	14	86	61	282
	U	146	15	48	51	260
	T	14	2	9	1	26
Scholarships for ST Students	R	79	13	119	71	282
	U	125	8	75	52	260
	T	15	1	9	1	26

Scholarships for girls	R	41	15	148	78	282
	U	52	20	124	64	260
	T	8	1	14	3	26
Scholarships for backward communities	R	67	17	122	76	282
	U	95	16	77	72	260
	T	7	-	16	3	26
Scholarships for children of ex-servicemen	R	30	7	159	86	282
	U	33	9	148	70	260
	T	3	0	19	4	26
Scholarships for children of refugees	R	8	2	180	92	282
	U	6	4	174	76	260
	T	1	-	21	4	26
Free uniforms	R	49	50	110	73	282
	U	61	36	102	61	260
	T	10	3	11	2	26
Free textbooks	R	115	58	58	51	282
	U	112	50	47	51	260
	T	15	6	5	-	26
Mid-day meals	R	51	14	135	82	282
	U	38	5	149	68	260
	T	6	4	13	3	26
Other incentives	R	11	11	140	120	282
	U	11	3	155	91	260
	T	1	2	17	6	26

Low Enrolment and High Dropout

It is not just the question of conducting annual census of the school going age children by teachers nor just ensuring that the provisions made by way of various kinds of scholarships and other incentives for children of weaker sections of society and for girls are duly utilised to the fullest extent. They are expected to pay special attention to the programme of universal elementary education by developing good community relations and impressing upon the parents and the community the desirability of sending children to the school.

Tables 5.10 and 5.11 show that there is considerable scope for improvement in this regard. A significant proportion of primary school respondents either pay only some attention or not at all, to increase enrolment in schools.

Table No. 5.10

**Steps Taken by Primary School Teachers to Ensure that all
Students Identified in Annual Census Join the School**

N=292

		Always	Sometimes	Never	Total
Approach each household	R	87	43	54	184
	U	39	18	41	98
	T	5	-	5	10
Seek help of village Pradhan	R	41	72	71	184
	U	7	38	53	98
	T	1	4	5	10
Seek the cooperation of the community	R	35	75	74	184
	U	12	36	50	98
	T	1	4	5	10
Report to the head of the school	R	82	32	70	184
	U	38	14	46	98
	T	5	-	5	10

According to Table 5.10 less than half of the primary school teachers make it a point to always approach each household to ensure that all students identified in the annual census join the school. 23% of teachers in rural schools only sometimes do so and another 30% never do it. Even in tribal area schools, 50% of teachers never approach households for the purpose. Nearly 40% of teachers in rural schools never try and seek the help of village Pradhan or the cooperation of the community for bringing school going age children to schools. In urban schools, the situation is similar. About 40% teachers never seek help of the local community in this behalf.

Table No. 5.11

**Special Attention Given by Teachers to Increase Enrolment of
Students (at Primary Stage)**

		Large extent	Some extent	Not at all
Impress upon the community the imperative need of sending their children to schools	R	101	94	29
	U	46	41	12
	T	10	5	4

Develop interest for education among students by acquainting them with various developments going on in the nation	R	95	99	30
	U	38	49	12
	T	5	11	3
Try to remove the indifferent attitude of parents to get their children educated by developing good community relations	R	77	111	36
	U	31	55	13
	T	5	9	5
Treat all students in the class alike	R	136	63	25
	U	53	32	14
	T	9	6	4

Table No. 5.12

Special Attention Paid by Primary School Teachers to Weak Students

		Always	Sometimes	Never
Extra coaching in weak subjects	R	61	86	77
	U	33	34	32
	T	5	5	9
More homework in weak subjects	R	72	93	59
	U	37	31	31
	T	8	2	9
Calling the students at home and helping them	R	44	78	102
	U	14	28	57
	T	3	6	10
Give extra care while teaching in the class	R	109	68	47
	U	42	30	27
	T	8	7	4
Other methods	R	75	4	214
	U	25	5	92
	T	—	—	19

From Table No. 5.11 it seems that teachers of primary schools do not take enough pains in removing the indifferent attitude of parents to get their children educated.

Similarly, not many primary school teachers (Table 5.12) pay special attention to weak students. Only 29% of teachers are sincerely engaged in extra coaching of students in their weak subjects; 36.5% do so only sometimes and 34.5% never do it.

The poor enrolment and high rate of dropouts among primary school students are thus inevitable. Unless special attention is paid by teachers to these aspects the UEE may continue to elude us.

Chapter VI

EXISTING NORMS AND THEIR FULFILMENT

Varying Norms

Different states have prescribed different norms of teacher-pupil ratios for their schools. These norms are generally based on the following considerations:

- (a) class-size
- (b) size of the population where the school is located
- (c) special population group, if any, which the school has to serve, such as scheduled tribes
- (d) location of school whether situated in urban or rural area, hilly or plain area, valley or desert
- (e) whether it is boys or girls or co-educational school
- (f) type of school—primary, middle, high
- (g) nature and number of subjects taught
- (h) type of school building—pucca, prefabricated, tented, etc
- (i) number of sections in a class or division.

The position regarding norms of TPR prescribed by various states is indicated below:

Kerala

There are no separate norms for sanctioning teachers in primary, middle and high schools in Kerala. One teacher is provided for every 45 pupils in a class. Specialist teachers such as those of Music, Needlework, Physical Education and language teachers are additionally provided on certain minimum strength of pupils. For example, a music teacher or a sewing mistress is allowed to a primary school having a total strength of 200 or more girl pupils. If the strength is 400, both music teacher and a sewing mistress are allowed. The State does not have any single-teacher school. As is known, it has also the distinction of highest literacy rate in India. It is also the only State which has achieved universal primary enrolment.

The drop-out rate at the primary stage here is the lowest in the country i.e. 5% against the national average of 63%.

Karnataka

While giving sanctions for teachers, the State takes into account the number of students on rolls as well as attending. The general norm is to provide at primary stage one teacher for every 50 pupils on roll and 40 pupils on an average attending the school. When the pupil strength in a class exceeds 75 on roll, with 60 attending on an average, the class is bifurcated and an additional teacher sanctioned. However, the norm of 1:50 on roll is not applicable where a new primary school is opened in a village having population of 300 and above and where no facility for schooling is already available within a distance of 1.5 km. This has been necessary because of the Compulsory Primary Education Act and the Government's policy of making primary Education free and compulsory for all children of the age group 6 to 10 (Classes I to IV).

At the secondary stage, the teacher-pupil ratio in Karnataka is 1:55 (excluding Headmaster). But that applies only to high schools situated at places having a population of 30,000 and above. In places having a population of below 30,000 the teacher-pupil ratio is 1:40. Bifurcation of a class is allowed, if strength on roll exceeds 80 and average attendance is 70. There are no separate instructions for boys, girls or co-educational schools or for rural, urban and tribal schools. But a physical education teacher is provided in upper primary schools which have seven teachers or more. A Hindi teacher is also provided where Hindi is taught. Subject teachers are provided in classes VIII to X for Science, Maths, Social Studies and for languages like Kannada, English, Arabic and Sanskrit. A teacher is also sanctioned for art and craft.

Andhra Pradesh

Throughout the school stage in Andhra Pradesh, one teacher is provided for a class of 40 pupils except in single teacher schools where the teacher-pupil ratio is 1:20. In secondary schools there is at least one section for each of the classes VIII, IX and X. Accordingly there are three B.Ed. Assistant's posts and the post of a headmaster. Out of these B.Ed. Assistants, one is for social studies, one for mathematics and one for science. Besides, there is one Telugu and one Hindi Pandit in addition to specialist teachers like Drawing Master, Craft Instructor and Physical Education Teacher as far as possible. The same principle applies to all schools irrespective of the type of their management.

Manipur

In Manipur, the consideration of location of school, whether in a hilly area or plain area are important in determining teacher-pupil ratio.

The State has prescribed that in classes I & II, no teacher will be allowed to teach more than 30 pupils in a class. In classes III-V, the maximum limit is 35 pupils and in classes VI-VIII, it is 45. But the ratios change with the location of the school. For primary classes the ratio is 1:30 for every class in the valley and 1:20 in the hills. It is 1:20 for girls schools in both hills and valley. For middle classes, the ratio is 1:40 for every class in the valley and 1:30 in the hills. It is also 1:30 for girls schools irrespective of the location. This excludes the headmaster/headmistress, one Hindi teacher and one science teacher. For high school, sanction is given at the rate of one teacher for every section of a class (VI to X) besides Headmaster, Assistant Headmaster, a science teacher, Hindi teacher and a Physical training instructor.

The State has prescribed minimum enrolment for different classes. For classes I & II, it is 15 in hilly and rural areas and 30 in urban areas. For classes III to V, it is 30 in hilly and rural areas and 45 in urban areas; for classes VI to VIII, it is 45 in hilly and rural areas and 60 in urban areas.

The State also prescribes the school size, which implies the size for each class having one section, for different categories of schools as follows:

SCHOOL HAVING		IN VALLEY		ON HILLS	
		BOYS	GIRLS	BOYS	GIRLS
(a)	Classes I-V	150	125	100	75
	III-V	90	75	60	45
	I-II	60	50	40	30
(b)	Classes I-VIII	240	200	160	120
	III-VIII	180	150	120	90
	VI-VIII	90	75	60	55
(c)	Classes I-X	300	250	200	150
	III-X	240	200	160	120
	IX-X	100	80	60	40

Jammu & Kashmir

Norms for opening of primary schools prescribe that distance from the nearest primary school/section shall not be less than 2 kms and population of the habitation/feeding habitation should not be less than 200. As a second priority, relaxation could be made to have a school at a distance of

1 km or with a habitation of 100. The provision of minimum staff in primary schools is done on the following basis:

	In Plain areas	In Hilly areas
1. One teacher for average enrolment ranging between	10-40	10-30
2. Two teachers for average enrolment ranging between	41-60	31-50
3. Three teachers for average enrolment ranging between	61-90	51-80
4. Four teachers for average enrolment ranging between	91-120	81-110
5. Five teachers for average enrolment ranging between	121-150	111-140

If average enrolment of a school exceeds 150 an additional post of a teacher for every section of 40 to 50 pupils is provided.

For a middle school in J & K, one teacher is provided for each of the classes VI & VII, and one master and a teacher for class VIII. In high schools, four masters and two teachers for classes IX and X are provided besides a P.T.I.

Rajasthan

The state does not lay down any restriction on minimum number of pupils in a primary school. It only mentions that the population of the village where the school is to be located should be 320 or above, which is relaxable to 250 in villages located in tribal areas or desert. At the upper primary stage, the limit of population is placed at 1750 or over but the minimum number of students in class V is fixed as 10. An upper primary school for girls can be opened at a place where population is 5000 or more (4000 or more in desert and tribal areas) with a minimum number of students in class V as 10.

The sanction of teachers in Rajasthan is regulated on the following basis:

(a) Primary School

- one teacher for 49 pupils or less
- two teachers for 50 to 89 pupils
- three teachers for 90-129 pupils

- four teachers for 130-169 pupils
- five teachers for 170-209 pupils

(b) Upper Primary School

Classes I to V: as above

Classes VI to VIII: one teacher per section of a class (excluding headmaster); also one additional teacher for every five sections. While giving teachers subject requirements are kept in view. If there are 7 teachers for classes VI-VIII then an additional physical education teacher is provided.

(c) Secondary School

In class IX there should be at least 25 students in a Group i.e. Arts, Science or Commerce.

A headmaster, a teacher each for English & Science, 4 teachers for optional subjects, a 3rd grade teacher for Physical Education and a craft teacher are provided for classes IX & X. If there is another section one more teacher is provided. If there are additional sections 1.5 teachers are provided per section.

Gujarat

The norms of teacher-pupil ratio in the State are as follows:

Classes I & II (taken together)	Upto 50 students	one teacher
	50 to 100 students	two teachers
	101 to 150 students	three teachers
	151 and above	four teachers
	For every additional 50 students	one additional teacher
Classes III & IV (taken together)	15 to 50 students	one teacher
	51 to 100 students	two teachers
	101 to 150 students	three teachers
	For every additional 50 students over 150	one teacher
Classes V, VI & VII (per section)	15 to 50 students	one teacher
	51 to 100 students	two teachers
	For every additional 50 students	one teacher

Maharashtra

The norms of teacher-pupil ratio prescribed by the State Government are as under:

- (a) One teacher for each single-teacher School.
- (b) For Multi-teacher Primary Schools having classes I to IV in rural areas, as per following norms:

No. of students	Teachers	Attendance requirement
40	1	—
41-80	2	—
81-120	3	More than 60; even if enrolment is more than 80, more than 2 teachers are not admissible unless the average attendance is more than 60 for sanctioning teachers for primary School.
121-160	4	More than 90
161-200	5	More than 120

- (c) 1.3 teachers for each class of standards V, VI and VII, if the average attendance is 20, 15, 15 respectively in rural areas and 15, 10, 10 respectively in tribal areas.

If the average attendance in each of classes V to VII is less than aforesaid minimum prescribed, the number of teachers is decided on the basis of number of students in all the three classes as follows: 2 teachers for 40 students in non-tribal areas and 2 teachers for 30 students in tribal areas. The Zilla Parishads are required to create additional posts of Primary School teachers admissible as per these norms with the sanction of Government and to appoint teachers accordingly. The Zilla Parishads are eligible for 100 per cent grant for their expenditure on this account.

- (d) For secondary schools the number of teachers is prescribed on the basis of class size and actual teaching hours of the school per week. If average enrolment of a class is more than 50, a teacher has to do actual teaching work for 17 hours (clock hours) per week. But if the average enrolment is 30 or less a teacher has to do actual teaching work for 19 hours per week. In the case of a teacher teaching classes with an average enrolment of 31 to 50, the actual teaching work is

for 18 hours per week. A full time teacher is required to be present in the school premises during working hours for 30 hours a week exclusive of daily recess. The allocation of teachers to different schools is made accordingly. While making appointments and postings, requirements of subjects to be taught are kept in view. The maximum number of pupils to be admitted in the first division (a section of a class) is 60 and for each additional division it is 50.

Haryana

One JBT teacher is provided for first 50 students in a primary school in Haryana. Thereafter, teachers are provided at the rate of 1:45. The maximum class size in primary schools is 45. In middle and high schools, the maximum class size is 50.

Himachal Pradesh

No fixed norms regarding teacher-pupil ratio have been adopted by the State. However, teachers are provided in primary schools on the basis of strength of pupils; in middle and high schools provision of teachers is made according to the subjects taught. Conventionally when a new primary school is opened, one teacher is provided immediately. Additional posts are provided on the basis of enrolment from time to time. In respect of middle/secondary classes, teachers are provided subject-wise and on the basis of workload. The following is the basis for sanctioning teachers:

Primary Schools

<i>No. of Students</i>	<i>No. of Teachers</i>
1 - 19	1
20 (with three classes)	2
21 - 99	2
100 - 139	3
140 - 179	4
180 - 319	5
320 - 359	6

Middle Schools

Trained Graduates (1 Arts, 1 Science)	2
L.T. Teachers, Art & Craft, P.T.I. etc.	4

High Schools

Headmaster	1
Trained Graduates (1 Science, 1 Arts)	2
Additional Teacher for SUPW/Craft	1

Bihar

The norms of teacher-pupil ratio are as under:

- (a) Primary Schools (Classes I-V): 1:50
- (b) Middle Schools (Classes VI-VIII): 1:40
- (c) High Schools (Classes VI-X): One teacher for each section of a class, a section being of 50 students, additional teachers for language and other subjects.

At the time of upgradation of a lower primary to upper primary school, additional teachers are provided only at the rate of 1:50. For upgradation of an upper primary school to middle school, it is essential that in Class V, there should be at least 25 students, except in Chotanagpur and Santhal Paragana where the minimum requirement for class V is 20 students.

Further, in Bihar, another section of class VI or VII in a middle school is allowed only if there are at least 70 students in a class; third section is allowed if the number is at least 100 in a class. A school having more than one section in classes VI and VII will be provided an additional trained Intermediate teacher per additional section; e.g. if there are 3 sections in Class VI and 2 sections in Class VII, it will be allowed a headmaster, a second teacher and 3 trained Intermediate teachers. Similarly, if there are two sections each in Classes VI and VII, it will get a headmaster, a second teacher and 2 trained Intermediate teachers.

Tripura

The norms prescribed by the State are:

- (a) Primary/Junior Basic School (classes I to V): 1:40
- (b) Senior Basic/Junior High School (classes VI to VIII): Upto 135 students (3 sections), 7 teachers including headmaster are sanctioned; thereafter for every additional section of 45 students, an additional teacher is provided. The distribution of available teachers is made according to subject requirements including art graduates, history and geography, maths and physics, bio-science, classical language, physical instructor and craft instructor. Where middle school has got classes I to V also, teachers for these classes are provided in the ratio of 1:40. Headmaster/teacher-in-charge is excluded while deciding the number of teachers as per TPR.

(c) Upto 225 students (5 sections), 11 teachers are sanctioned: languages (4), history and geography (2), maths and physical science (2), bio-science (1), physical instructor (1), and craft/fine arts (1). Upto 270 students (6 sections), 13 teachers, and upto 315 students (7 sections), 14 teachers are sanctioned. For every additional section, 2 more teachers are provided.

A section of a high school class in Tripura consists of 40+5 (5 students may be admitted at the discretion of the headmaster). Headmaster and Assistant Headmaster are not included in the total number of teachers provided.

Tripura Government has fixed the optimum size of different schools as under:

- (i) Secondary section of a school (classes IX and X): 240 pupils
- (ii) Middle stage school:

	Rural Areas	Urban Areas
Classes I - VIII	320 pupils	600 pupils
Classes VI - VIII	120 pupils	240 pupils
- (iii) Primary stage school: The output of the terminal class of a teacher primary school/section should at least be 20 for a plain area and at least 15 for a hilly or inaccessible area.

Assam

The minimum strength of teachers at the time of starting an institution has been prescribed by the State in accordance with the number of sections in each class. In a single section high school (classes V to X), the prescribed strength including the headmaster is eight graduate teachers and three under-graduate teachers. The former include one graduate teacher each for mathematics, science, history/geography and mother tongue, and three graduate teachers for english with the provision that a fourth teacher of english is to be added if the headmaster is not a teacher of english. The undergraduate teachers include one each for mathematics, history/geography and mother tongue. In addition, there are special teachers one each for a classical language, drill/drawing and hindi. A qualified craft teacher is also appointed when craft is introduced as one of the subjects.

For a single section high school with four classes (classes VII-X), the approved strength of the teachers is five graduate teachers (including the headmaster) and two under-graduate teachers. The former include two teachers for english, one for mathematics, one for science and one for history/geography. Of the two under-graduate teachers, one is for mother tongue and another for hindi. In addition one teacher is appointed for each of the classical languages introduced in the school.

For a double section high school (classes V-X), the approved strength is twelve graduate teachers (including headmaster) and five under-graduate teachers. The graduate teachers include six for english, two for mathematics, one for history/geography, one for science and two for mother tongue. The under-graduate teachers include one for mathematics, two for history/geography, one for science and one for mother tongue. Special teachers are appointed additionally for particular subjects introduced in the curriculum on the basis of 28 periods a week for each teacher.

For an additional section in Classes V to VII, one under-graduate teacher is provided. Similarly, if there are two additional sections in the same classes, one graduate and two under-graduate teachers are sanctioned. For an additional section in an upper class of the high school the additional sanctioned strength is one graduate teacher, and for two additional sections three graduate teachers.

West Bengal

In Primary schools (classes I-IV), the prescribed TPR is 1:40. An additional teacher is allowed when the prescribed enrolment is exceeded by 20 or more pupils.

For High schools (including Junior High and Higher Secondary), the teacher-pupil ratio is 1:35. Upto 59 students there will be only one section in any class and if the number exceeds sixty, the school may start another section. Approval of appointment is based on the class units where the "staff pattern" is also a criterion for consideration of approval of appointment. If the enrolment of any class is exceeded to a large extent, an additional teacher may be allotted to the school concerned, but the approval of additional post is purely temporary. If the enrolment continues to be very large for consecutive 3 years, the additional post may be converted into a substantive one. While sanctioning teachers for a high school, subject requirements are taken into account.

Uttar Pradesh

There is no minimum requirement of teacher-pupil ratio for single-teacher primary schools. The second teacher is given when enrolment crosses 60, third teacher is given when enrolment crosses 100, and so forth. For a normal primary school one teacher is provided for every section of a class.

For middle and high schools the general norm for sanctioning teachers is one and half teachers per section. This includes teachers for science, languages, art and craft.

The size of a section of a class in a middle/high school is as follows:

VI to VIII	Upto 50 students—one section
	From 53 to 87 students—second section
	For every additional 35 students—One additional section
IX to X	Upto 60 students—one section
	From 61 to 100 students—second section
	For every additional 40 students—one additional section.

Delhi

The Union Territory of Delhi, which is the capital of India, has laid down that the normal size of a class shall be of 40 students with not less than 400 sq. feet or 36 sq. metres as floor area. Accordingly, a section of a class would normally consist of 40 students in a pucca building, 35 students in prefabricated accommodation and 30 students in tented accommodation. Break-up of sections is allowed at 45, 90, 135, 180 in a pucca building, at 40, 80, 120, 160 in a prefabricated building and at 35, 70, 105, 140 in tented accommodation.

Teachers are allowed in Delhi on the following basis:

(a) Primary Department (Class I-V)	One Assistant teacher per section
	Additional Assistant Teacher if number of sections exceeds 8.
(b) Middle/Secondary Department (VI-X)	One trained graduate teacher (TGT) per section
	Additional teacher is allowed against the marginal half teacher in case of two odd numbers of sections in a school;
	extra teacher at the rate of half teacher for each of the four subjects viz. drawing, physical education, music (with a part-time tabla player) and home science;
	Extra physical education teacher in a co-educational secondary school; Extra teacher for work experience.

A headmaster is provided in a middle school against the post of a teacher

calculated as above. In a secondary school, a headmaster or a vice-principal is allowed (if enrolment is 800 or more) in lieu of half teacher out of the total number of teachers permissible. In a composite secondary school having primary department, a headmaster is provided.

The minimum and maximum enrolments in schools from class VI onwards have been fixed by Delhi Administration as under:

	Minimum		Maximum
	Rural	Urban	
(a) Section	20	30	45
(b) Optional Subject	12	15	45
(c) Sanskrit	6	12	45
(d) 3rd language	12	12	45

GAP BETWEEN NORMS PRESCRIBED AND NORMS FOLLOWED

Schools Short of Teachers

The present study has revealed that whereas the States have prescribed their own norms for sanctioning teachers for different schools, not all schools have the required number of teachers. This is evident from Table 6.1 according to which out of the total sample of 580 schools, as many as 84 schools (14.5%) were short of teachers during 82-83 as per the prescribed norms. 57 of these were in rural areas (14.8%) and 27 were in urban areas (13.9%). A further analysis shows that 44 (32 rural and 12 urban) of these schools were short of teachers by more than 20%, another 22 (16 rural and 6 urban) were short of teachers between 10% and 20% of the sanctioned strength and 18 schools (9 rural and 9 urban) were short of teachers upto 10 per cent of the sanctioned strength.

Table No. 6.1

**Teachers' Actual Strength Compared to Sanctioned Norms
(in Schools of the Sample)**

	More than sanctioned	Equal to sanction	Shortage	N.A.	Total
URBAN	3	156	27	8	194
RURAL	3	319	57	7	386
TOTAL	6	475	84	15	580

Such a shortage of teachers in terms of sanctioned position undoubtedly, is not in the interest of proper teaching learning. It affects adversely not only the teaching-learning process but also the programmes of universal elementary education, retention and achievement. Courses may remain uncompleted, assignments of students may remain unchecked and co-curricular and extra-curricular activities may remain unattended for want of adequate number of teachers in the schools. It may also render some of the teachers frustrated, as they will, in the circumstances, have to bear the extra burden of the vacant posts of teachers

Table 6.2 gives the statewise position of the shortage of teachers vis-a-vis the sanctioned strength as per the prescribed norms of TPR in the schools covered by the sample.

Table No. 6.2

**Position Regarding Teachers Sanctioned and Those
Actually in Position in Schools of the Sample (Statewise)**

			More than Sanct- ioned	Equal to Sanction	Shortage	N.A.	Total	Total Schools
1.	Andhra	U	-	7	1	1	9	
	Pradesh	R	-	16	4	1	21	30
2.	Assam	U	-	8	-	4	12	
		R	-	6	1	1	8	20
3.	Bihar	U	1	7	1	-	9	
		R	-	16	5	-	21	30
4.	Gujarat	U	-	3	-	-	4	
		R	-	12	4	1	16	20
5.	Haryana	U	-	8	-	1	9	
		R	-	10	1	-	11	20
6.	Himachal	U	-	2	-	-	2	
	Pradesh	R	-	7	1	-	8	10
7.	Jammu &	U	-	5	-	-	5	
	Kashmir	R	-	24	1	-	25	30
8.	Karnataka	U	-	10	3	-	13	
		R	1	23	2	1	27	40
9.	Kerala	U	-	3	-	-	3	
		R	1	14	2	-	17	20
10.	Madhya	U	-	10	2	-	12	
	Pradesh	R	-	27	11	-	38	50

11. Maha-	U	-	17	-	-	17	60
	R	-	38	5	-	43	
12. Manipur	U	-	4	3	-	7	10
	R	-	3	-	-	3	
13. Megha-	U	-	3	1	-	4	10
	R	-	5	1	-	6	
14. Orissa	U	-	10	2	-	12	30
	R	-	16	2	-	18	
15. Punjab	U	-	5	-	-	5	20
	R	1	13	-	1	15	
16. Rajasthan	U	2	9	2	-	13	40
	R	-	26	1	-	27	
17. Tamil	U	-	10	2	1	13	30
	R	-	16	1	-	17	
18. Tripura	U	-	3	1	-	4	10
	R	-	5	1	-	6	
19. Uttar	U	-	10	2	-	12	50
	R	-	25	13	-	38	
20. West	U	-	17	6	1	24	40
	R	-	16	-	-	16	
21. Delhi	U	-	5	-	-	5	10
	R	-	1	1	3	5	
Total						580	

It will be seen from Table 6.2 that Madhya Pradesh and U.P. are the two States where the number of schools short of teachers is the largest (26% and 30% respectively). In West Bengal the percentage of such schools is 15 and in Gujarat and Bihar, it is 20. But what is noteworthy is that there is hardly any State which has all the posts of teachers duly filled in.

It is not just in the schools covered by the sample that there is shortage of teachers in terms of the sanctioned norms. In Delhi, according to the budget estimates of the Union Territory for the year 1983-84, there were as many as 889 posts of different categories of teachers which were vacant. Nearly half of them (417) were posts of trained graduate teachers. Another 1266 posts of different categories of teachers were yet to be created by the Administration.

Unqualified, Untrained Teachers

Apart from the vacant posts, there is also an important question of some of the teachers-in-position being not qualified or not trained as required.

Table 6.3 gives the number of schools in the sample (a) having unqualified and untrained teachers and (b) having teachers who hold the basic qualification but are untrained.

Table No. 6.3

Number of Sample Schools with Unqualified and Untrained Teachers

N=580

	Schools with unqualified and untrained teachers	Schools with qualified but untrained teachers
Urban	10	39
Rural	9	66
TOTAL	19	105

The above table shows that out of 580 schools in the sample, 105 (18%) schools have some teachers who are untrained. There are 19 schools where there are some teachers who are neither qualified nor trained. Moreover, out of 1088 teachers interviewed in 580 schools of the sample, 158 (14.5%) are untrained teachers.

According to the Selected Educational Statistics for 1984-85 published by the Ministry of Human Resource Development, Department of Education, Government of India (1986), only 87.2% teachers of high schools, 90.6% teachers of middle schools and 88.7% teachers of primary schools in the country are trained. The States of Meghalaya, Nagaland, Sikkim, Tripura and Mizoram have less than 50% primary school teachers who are trained. In West Bengal, only 56% of the primary school teachers and in Assam only 68% are trained.

The phenomenon of several posts of teachers lying vacant for long periods despite the given norms of teacher-pupil ratio, as well as of unqualified and untrained persons holding certain posts of teachers is not uncommon in practically all the States and Union Territories. While on the one hand, there is lot of educated unemployment and the trained teachers are waiting for jobs, on the other, many teachers' posts are not filled up. This is, indeed, not a satisfactory position and deserves serious attention.

Chapter VII

OPTIMISING TEACHER PUPIL RATIOS

The Challenging Task

The world is now divided into two groups: the developed nations which have about 20 per cent of the world's population but which control about 80 per cent of the world's resources, and the developing nations which have about 80 per cent of the world's population and which control only about 20 per cent of the world's resources. The very wide gap in the standards of living between the two is paralleled by the gap between educational opportunities. Most developed countries have achieved virtually complete literacy and they provide universal, compulsory education for nine to twelve years i.e upto standard IX or XII. In developing countries on the other hand illiteracy rates are high, a significant proportion of children have no educational facilities within their communities, many of them never go to school, and a still larger number are withdrawn prematurely. Obviously, there is a world of difference between the right to education enjoyed by children in the developed and developing countries of the world (J.P. Naik, 1979).

India as a developing country is striving to achieve universal literacy and universal elementary education despite severe constraints of resources. Physical facilities in schools are inadequate; the number of single-teacher schools is quite large; teachers are low paid and their service conditions are poor. To think of providing modern teaching aids to all the 7,00,000 schools in the country is like asking for moon. Yet, India is undeterred and is moving steadily to achieve its goal to provide educational opportunity for every child.

Raising pupils' levels in disadvantaged environments is, indeed, a very challenging task for teachers and supervisors. It is in disadvantaged areas that we find either very crowded schools with more than 50 pupils in a class or very small schools with only 15 to 25 pupils distributed in four or five classes. Since the Government is unable to meet the ideal requirements of educational process, while in the first situation a teacher is asked to handle unduly large classes, in the latter situation he is required

to manage pupils of more than one class at a time. Notwithstanding this, the expectation of the Government and the people is that right type of instruction should be imparted to children. There is obviously no escape from it as the child's interest is foremost and cannot be allowed to suffer even though there may be various inadequacies by way of necessary facilities in schools.

Teachers' Opinion Survey

As a part of this study, the teachers of the sample schools were asked to give their suggestions about the optimum TPR separately for rural, urban and tribal schools at primary, middle and secondary stages of education. The frequency distribution of their responses is given in Table 7.1.

Table 7.1.1 shows that for rural primary schools the ratio of 1 teacher for 36 to 40 pupils has been suggested by 22.28% primary school teachers. Another 12.5% have suggested even upto 45 or 50 pupils per teacher. A few teachers even suggest a ratio of over 1:50. There are 29.9% teachers who have suggested a lower TPR i.e 26 to 30 pupils per teacher, another 19.5% have suggested a ratio of 30 to 35.

For primary schools in urban areas, Table 7.1.1 shows that a large proportion of teachers (29.5%) has expressed in favour of a ratio of 36 to 40. Another 17% have suggested a ratio of upto 50 pupils per teacher. There are 23.4% teachers who have suggested that the ratio should be only 26-30 pupils per teacher.

For single-teacher schools, Table 7.1.2 shows that a large number of teachers (30%) have suggested a ratio of 36-40 pupils per teacher; 27.5% teachers have suggested a ratio of 26 to 30. For tribal areas the largest number is in favour of 26-30 pupils per teacher in multi-teacher as well as single-teacher primary schools.

For middle and high schools in rural areas, Table 7.1.3 shows that 32.7% teachers have suggested a ratio of one teacher for 26 to 30 pupils, 17% are in favour of one teacher for 31 to 35 pupils and 15.5% are in favour of one teacher for 36 to 40 pupils. In urban areas 27.6% teachers want upto 40 pupils in a class, 15.3% want upto 45 and 5.5% upto 50 pupils.

From Table 7.2 it will be observed that 140 (27%) out of 518 heads of schools have suggested the ratio of 26 to 30 pupils per teacher; 130 (25%) have suggested 36 to 40 per teacher. Only 52 (10%) have suggested the ratio of 31 to 35 per teacher. 22 heads did not give any opinion. The remaining heads have given varying ratios.

It will thus appear that teachers differ considerably in their views

Table No. 7.1.1

Frequency Distribution of Teacher-Pupil Ratios as Suggested by Teachers

I. For Primary Schools
(other than Single Teacher Schools)

Teacher - Pupil Ratios														
	Below 16	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
URBAN	-	1.0 (1.02)	15.0 (15.31)	23.0 (23.47)	10.0 (10.20)	29.0 (29.60)	9.0 (9.18)	8.0 (8.16)	1.0 (1.02)	1.0 (1.02)	1.0 (1.02)	-	98.0 (100.00)	
RURAL	-	2.0 (1.09)	24.0 (13.04)	55.0 (29.89)	36.0 (19.57)	41.0 (22.28)	17.0 (9.24)	6.0 (3.27)	1.0 (0.54)	1.0 (0.54)	-	1.0 (0.54)	184.0 (100.0)	
TRIBAL	-	3.0 (30.0)	2.0 (20.0)	4.0 (40.0)	-	1.0 (10.0)	-	-	-	-	-	-	10.0 (100.0)	
TOTAL	-	6.0	41.0	82.0	46.0	71.0	26.0	14.0	2.0	2.0	1.0	1.0	292.0	

Table No. 7.1.2

Frequency Distribution of Teacher-Pupil Ratios as Suggested by Teachers

II. For Single Teacher Primary Schools

Teacher - Pupil Ratios															
	Below 16	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
URBAN	-	-	-	1.0	-	-	-	-	-	-	-	-	1.0 (100.0)		
RURAL	2.0 (5.00)	1.0 (2.50)	5.0 (12.50)	11.0 (27.50)	4.0 (10.00)	12.0 (30.00)	1.0 (2.50)	3.0 (7.50)	1.0 (2.50)	-	-	-	40.0 (100.0)		
TRIBAL	-	-	1.0 (11.11)	4.0 (44.45)	1.0 (11.11)	1.0 (11.11)	1.0 (11.11)	1.0 (11.11)	-	-	-	-	9.0 (100.00)		
TOTAL	2.0	1.0	6.0	16.0	5.0	13.0	2.0	4.0	1.0	-	-	-	50.0		

Table No. 7.1.3

Frequency Distribution of Teacher-Pupil Ratios as Suggested by Teachers

III. For Middle and High Schools

Teacher - Pupil Ratios														
Below 16		16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
URBAN	1.0	3.0	11.0 (6.7)	37.0 (22.7)	30.0 (18.4)	45.0 (27.6)	25.0 (15.3)	9.0 (5.5)	1.0	-	1.0	-	-	163.0
RURAL	1.0	4.0	10.0 (17.2)	19.0 (32.7)	10.0 (17.0)	9.0 (15.5)	2.0	1.0	1.0	-	1.0	-	-	58.0
TRIBAL			1.0	2.0 (28.5)	1.0	1.0	1.0	1.0	-	-	-	-	-	7.0
TOTAL	2.0	7.0	22.0	58.0	41.0	55.0	28.0	11.0	2.0	-	2.0	-	-	228.0

Table No. 7.2

Frequency Distribution of Teacher-Pupil Ratios as Suggested by Heads of Schools

For all Schools

1	Teacher - Pupil Ratios																Total
	Below 16	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	Above 75			
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
URBAN	5	8	20	69	23	69	21	11	5	10	3	3	1	10	258(100%)		
RURAL	6	6	26	65	29	56	12	12	2	5	3	8	1	10	241(100%)		
TRIBAL	1	1	2	6	-	5	4	-	-	-	-	-	-	-	19(100%)		
TOTAL	12	15	48	140	52	130	37	23	7	15	6	11	2	20	518		

about what should be the optimum teacher pupil ratios for primary, middle and secondary schools. Even heads of schools are not uniform in their views. One thing is, however, clear that all teachers do not favour smaller classes. There are many who suggest 1:45 or 1:50 as the TPR.

Smaller Classes

In India, it is not just the problem of large classes. Because of the policy adopted by the Government to provide access of elementary education to all children, as also because of the norms which exist in different States for TPR a large proportion of schools, particularly primary schools are small schools having very low enrolment in each of the classes. These are the schools which are mostly located in rural areas, on hills, in tribal areas or those areas which are sparsely populated. Here, the teacher is required to handle multiple classes and obviously needs to be adequately equipped to deal with such a situation. Not enough attention seems to have been paid to this aspect of the problem in pre-service and in-service education of teachers.

From the data collected during the present study, it is revealed that the size of a class is quite small in several schools as is evident from Table No. 7.3.

It would be observed that out of 401 sample schools having class I for which data was available there are 89 schools (22.19%) where strength of that class consists of less than 25 pupils, and there are 77 (19.20%) where the strength of class is below 40. In so far as class V is concerned, out of 356 schools having class V, there are 133 schools (37.36%) where strength of that class is less than 25 pupils. There are 55 schools (15.45%) where class V strength is below 40 pupils. Even for class IX, there are 4 schools which have a class size of less than 25, and another 7 which have a class size of less than 40 students.

Table No. 7.3

Schools with Smaller Class Size in Sample Schools

No. of pupils	Class I N=401	Class V N=356	Class IX N=93
Below 25	89 (22.19)	133 (37.36)	4 (4.30)
Below 40	77 (19.20)	55 (15.45)	7 (7.53)

It will thus be observed that India has to make a two-pronged attack in so far as class size is concerned. On the one hand, it has to avoid smaller classes (less than 25 pupils) which exist in nearly one-third of the schools, on the other hand it has also to control larger classes (more than 50 pupils) which are not uncommon in some states.

In a workshop held in Chandigarh by the Field Office of the NCERT (1983) on Strategies for large classes at Secondary stage, it was noted that the Education Commission had pointed out that however capable a teacher may be, he cannot pay individual attention to a large number of children in a class, give special attention to the weaker ones, and guide the brighter ones to proceed at a faster pace in an attempt to help one and all to reach the maximum of their capacities. But the Workshop observed that it is no longer possible due to vast educational expansion, to restrict the class size to a small number of students. It recommended that "the optimum number of a class as given in the Kothari Commission Report at the Secondary Stage seems to be receding fast into oblivion. Class strength is now fast rising like a steep graph and there is no let up in this trend. Although it is very difficult to fix any point as the optimum number for a normal class, it may however be suggested that fifty may be considered as the optimum for a normal class at secondary stage. This number should not only be applicable to a standard of a class but also for all other groups formed for teaching different subjects". The Workshop accordingly concluded that a class exceeding fifty may be labelled as a large class. It emphasised that if the head of a secondary school performed his role properly, if the classroom was well organised and if the colleges of education discharged their responsibilities effectively, large classes could be handled by teachers satisfactorily. It also suggested that if appropriate methods of teaching could be adopted suiting different subjects like maths, science and social studies and if use of modern teaching aids is encouraged, the results would be better.

Dorene Doerre Ross (1983) states quoting various research studies that it is wrong to think that individualised instruction is always the best. Large group teacher-directed instruction is superior to individualised instruction or discovery approaches when the basic skills are in focus while teaching less successful students. Demonstration, recitation, drill and practice appear to be the best strategies to use when attempting to build skills with students who need the most help. Students who typically have more difficulty in learning the skills of reading and mathematics seem to learn best in a highly structured large group situation where the teacher is in front of a class actually engaged in active instruction. Students

tend, at least, to achieve higher than they would in an individualised format or a discovery approach (P.L. Peterson & H.J. Walbey 1979). Large group teacher-directed instruction tends to provide greater achievement in basic skills, as measured by standardised tests, than do alternative approaches. That is, of course, if the teacher using the method is comfortable with it (T.L. Good, 1981). Ross thus concludes that research on teacher effectiveness has tarnished some beliefs once held to be unequivocally true and we need not necessarily condemn large classes which are inevitable today.

Strategies

The small class size in rural, remote areas particularly at primary stage of school education and the large class size in urban, crowded, thickly populated areas, at primary, middle and secondary stages are both to be tackled in such a way that there is no wastage of available scarce resources and yet the educational goals of providing educational opportunity for all children and improving the quality of school education are achieved.

Strategies required to achieve these goals can be broadly classified as under:

- (a) Rationalisation of existing norms of Teacher-pupil ratios
- (b) Optimisation of the Teacher-pupil ratios

Rationalisation of Norms

It has been observed during the course of this study that there are States like Rajasthan, U.P., Maharashtra and Himachal Pradesh which do not prescribe any minimum requirement by way of number of students in a primary school. There is State like Manipur which prescribes minimum and maximum number of pupils in a class. Delhi prescribes the maximum size of a class depending upon whether the school is located in a pucca, prefabricated or tented accommodation. Karnataka, Tamil Nadu and Maharashtra not only lay down the minimum enrolment for a class but also insist upon certain minimum average attendance of pupils for getting teachers sanctioned. Maharashtra also links it with work load of teachers. Some States lay down the minimum number of students in a class to be eligible for a second section. In Rajasthan, Karnataka and J & K population of the habitation is also taken into consideration for determining the eligibility for a school. In J & K and Manipur, the TPR is determined also on the basis of the location of the school whether in hilly or valley area.

As detailed in the preceeding chapter, the norms of TPR vary from

1:20 to 1:55 in different states. Andhra Pradesh, Maharashtra, Tripura, Himachal Pradesh and Delhi have generally prescribed a TPR of 1:40. Gujarat, Karnataka and Bihar have generally prescribed a ratio of 1:50. Uttar Pradesh has fixed 1:40 for primary, 1:50 for middle and 1:60 for high schools for the first section of a class. Kerala has 1:45 for all classes. Manipur has prescribed only 1:20 and 1:30 for primary and middle classes respectively in hills and 1:30 and 1:40 respectively for plain areas.

Regulating the Opening and Upgrading of Schools

It does not stand to reason that the norms of TPRs should differ so widely from State to State. Now that more than 90% of habitations have been provided with primary schooling facilities and over 90% of children of 6-11 age group have been enrolled through formal and non-formal channels, it is high time that rationalisation is done by properly regulating the opening and upgrading of primary, middle and high schools.

Attendance to be a Criterion

Average attendance of pupils rather than enrolment in a class should be the main criterion for sanctioning teachers to a school. Karnataka's pattern seems to be more rational in this matter. Opinion of school heads was sought in the present study as to whether enrolment or attendance should be the basis for reckoning TP ratio and class size. Their responses are given in Table 7.4.

Table No. 7.4

Opinion of School Heads as to Whether Enrolment or Attendance should be the Basis for Reckoning Class-Size

	On the basis of enrolment	On the basis of attendance	Total
RURAL	161	81	242
URBAN	164	95	259
TRIBAL	8	9	17
	333	185	518

It will be seen from Table 7.4 that out of 518 school heads who responded on this item, 333 (64.3%) are in favour of enrolment as the basis for class size whereas 185 (35.7%) are in favour of attendance as the basis

of class size for purpose of sanctioning teachers. While the majority of the teachers have expressed in favour of enrolment as the basis, there is indeed a significant proportion of respondents who want attendance as the basis for reckoning class size. That shows that whereas some years ago, only enrolment figure was considered to be appropriate for the purpose (and rightly so, because the emphasis then was on somehow enrolling children in schools), now the need is for increasing attendance of pupils in schools in the context of universalization of elementary education and checking the drop out rate. The drop out rate which is quite high at the primary and middle classes, has, in fact, not shown any sign of significant reduction over the years. There are also some complaints of fake enrolment being shown in school registers to just impress upon the authorities that the number of students in schools is going up.

Insistence on average attendance will not only help to increase retention rate and optimise TPR but it will also help to check false utilisation of scholarships and other incentives by students who do not show up in the school except on the day of dispersal of these incentives.

Some states have the rules by which names of students, once they are enrolled are not struck off the rolls for the whole academic year even if they do not attend any class. This practice needs to be stopped immediately. If a student does not put in the required minimum attendance continuously for 3 months, his/her name should be removed from the register unless there are some specific reasons which should be recorded in writing.

Attendance scholarships should be awarded to students who put in cent per cent attendance in a year. Simple techniques like putting up every day a flag outside those class rooms which have 100% attendance, are likely to prove very beneficial in increasing the attendance rate amongst pupils. Rapport of teachers with the parents of defaulting children is also likely to improve attendance.

Different States have different practices about the month for which pupil strength is taken into account for the purpose of determining class size and TPR. The opinions given by school heads in this matter are indicated in Table No. 7.5.

Table No. 7.5

**Opinion of School Heads about the Month Which Should be
Taken for Calculating Pupil Strength**

Frequency distribution of respondents													
	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Total
RURAL	134	9	12	10	18	17	19	1	4	4	11	3	242
UBRAN	137	18	21	17	9	21	24	1	2	1	8	-	259
TRIBAL	9	-	-	-	1	3	2	-	1	-	1	-	17
Total	280	27	33	27	28	41	45	2	7	5	20	3	518

It will be evident from Table 7.5 that most school heads (280/518) want March as the month which should be taken for calculating pupil strength. This seems to be more reasonable as the experience has shown that more and more pupils drop out as the academic session passes. "The month of March which falls towards the end of the academic session will give a correct picture of the enrolment and attendance of the students in the school. However, it may be advisable to take an average of the enrolment/attendance counted at least three times a year, say in September, December, and March for purposes of sanctioning teachers to a school. In the case of hill schools, the months, could be September, November and April.

Proposed National Norms

It is strongly recommended that the norms for teacher-pupil ratios should henceforward be broadly uniform throughout the country. All future opening of schools, upgradation of schools and provision of teachers should be governed by the national norms and, if necessary, even the concurrency provision of the Constitution of India may be invoked so that there is proper utilisation of available scarce resources.

Keeping in view the fact that the present TPRs range from 1:20 to over 1:50 in different States, as also taking note of the fact that there are already many States which have a TPR of 1:45 or even more and that it is the quality of teaching, use of educational technology, continuous inservice training of teachers, leadership of the school head, effective supervision, school climate, and background of students, etc., which are more important than the class-size in determining the quality of education, the following norms

of TPR are recommended for adoption:

1. For Areas Other than Disadvantaged and Sparsely Populated Areas

(A) Primary Schools (classes I to V)

- (a) All new schools should be opened only on the basis of proper school mapping.*
- (b) No new single-teacher school be opened unless there is no existing facility for primary schooling within a distance of 1.5 kms. All habitations with a population of 300 (200 for tribal, hilly and desert areas) should be provided a primary school.
- (c) The following should be the basis for provision of teachers, due emphasis being given to average attendance of pupils:
 - One primary teacher: upto 50 pupils on rolls with 40 pupils attending on an average. (Average attendance to be counted at least 3 times in a year, say, September, December & March - for hill schools, months may be September, November & April).
 - Two primary teachers: upto 90 pupils on rolls with 75 pupils attending on an average.
 - Three primary teachers. upto 130 pupils on rolls with 110 attending on an average.
 - Four primary teachers: upto 170 pupils on rolls with 145 pupils attending on an average.
 - Five Primary teachers: upto 210 pupils on rolls with 180 attending on an average.
 - For a primary school having over 210 pupils on rolls -
 - One primary teacher per section each of 45 pupils on rolls, with at least 36 attending on an average.
 - Additional teacher (for physical education) if the number of sections exceeds ten.
- (d) Where the primary school has over 500 pupils on rolls, a separate post of headmaster/headmistress may be provided.
- (e) More and more women teachers should be appointed in primary schools. As far as possible at least one of the teachers in a primary

* School mapping is considered as an important strategy to prepare a Master Plan of Universal Provision of Facilities for Elementary Education under the Programme of Action for Implementation of National Policy on Education, 1986 approved by Government of India. The National Institute of Educational Planning and Administration (NIEPA) has recently undertaken a project on school mapping and is assisting some states in doing the school mapping.

school should be a woman teacher.

- (f) Anganwadis and child-care centres should be opened wherever considered necessary.

(B) Middle or Upper Primary Schools (classes VI to VIII)

- (a) A new middle school should be opened only on the basis of proper school mapping.
- (b) A new middle school should be opened in rural areas, only when there is no existing middle school (or middle classes) within a distance of 3 kms. In urban areas, no new middle school should be started or a primary school upgraded unless there are at least 45 pupils for class VI.
- (c) The size of a section of a class should normally be 45 on rolls, with 36 students attending on an average. Second section may be opened if the number exceeds 60 on rolls, with 50 attending on an average. Additional section may be opened for every 40 students attending.
- (d) Teachers at the rate of 1.5 teachers per section (including a Headmaster) should be provided for middle schools. While providing teachers, the requirements of the subjects taught should be duly kept in view. If there are more than seven teachers for classes VI to VIII a separate physical education teacher should be provided.
- (e) NFE centres should be opened for out of school youth.

(C) High Schools (classes VI to X)

- (a) If there are primary classes in the school, teachers should be provided for those classes as admissible to a primary school.
- (b) For classes VI to X, teachers should be provided at the rate of 1.5 teachers per section (all classes taken together) provided that while determining the number of teachers, the minimum number of periods required to be taught by different grades of teachers, such as PGTs and TGTs, will be duly taken note of.
- (c) New high schools should be opened (or middle schools upgraded) only on the basis of proper school mapping.
- (d) No new high school should be opened or a middle school upgraded unless there are at least 45 students for class IX.
- (e) The size of a section of class IX or X should normally be 45 students on rolls, with 40 students attending on an average. For subjects involving practical work, students may be grouped into batches.
- (f) Another section of a class may be opened if the number of students exceeds 60 on rolls, with 50 attending on an average. Additional

sections may be opened for every 40 students attending.

- (g) While appointing/posting teachers, care should be taken that all subjects to be taught are duly covered.

2. For Disadvantaged and Sparsely Populated Areas

- (a) In the case of rural primary, middle or high schools located on hills, in deserts or in other sparsely populated areas or in those villages where the majority of the population consists of SC/ST, a relaxation in terms of pupils on rolls and average attendance may be made to the extent of 20% of the aforesaid norms.
- (b) Temporary relaxation to that extent may also be made in those blocks where the gross enrolment in the case of 6-11 age group is below 60% and that in the case of 11-14 age group is below 30%.
- iii) Similarly, in the case of schools/classes located in tents, temporary relaxation upto 20% may be made in the norms.

3. General

- (a) As far as possible, schools should be co-educational; but separate middle/high schools for girls may be opened if the number of students or situation so demands.
- (b) In the case of residential schools, additional teachers should be provided to cater to the needs of supervised preparatory classes and other activities.
- (c) Headmaster should have a discretion to add upto 5 students in a section beyond the prescribed limit, depending upon the exigencies of the situation.
- (d) Specialist teachers may be provided for certain subjects like music, art, languages, work experience and physical education, depending upon a specified minimum number of students for the school.
- (e) Part-time specialist teachers may be provided where the student strength does not justify their appointment on whole time-basis. Also, two or more schools may be combined in a school complex to provide for specialist teachers. No full-time teacher should be allowed where the work load is not adequate by way of minimum number of periods per week.
- (f) The work load of teachers in terms of minimum number of periods to be taught should be rationalised and made uniform throughout the country for different stages of school education/different grades of teachers.
- (g) Work connected with achievement of UEE and other extension/

developmental work should form part of the job chart of teachers and headmasters/headmistresses.

- (h) Services of teachers should as far as possible be available for the benefit of the school complexes and activities such as science fairs, project work, exhibitions, cultural events, etc. should be organised on the basis of school complex as well as inter-school-complexes.
- (i) All schools should have at least 220 working days in a year.
- (j) For lady teachers of primary schools in remote rural, inaccessible areas, residential facilities should be provided.
- (k) Essential minimum physical facilities like blackboards, tat-pattis, library books, science kits, charts, maps and teaching aids must be provided at the time of opening a new primary school. Similarly basic facilities and equipment must be provided at the time of opening a new middle/high school.

The above norms and other recommendations made in this Study were considered by a Seminar (NIEPA, 1986). It was attended by over 40 participants who included Deputy Directors and Assistant Directors of School Education, District Education Officers, Deputy District Education Officers and other officers from 12 States and 2 Union Territories besides academicians. The Seminar agreed with the recommendations and endorsed the proposed norms taking note of the fact that feasibility is a very important consideration from the point of view of resource constraint. It emphasised that the teacher has an important role to play in achieving the UEE and for improving the quality of teaching-learning. Special attention has, therefore, to be paid to raising the competence of the teacher.

Strategies for Optimisation of TPR

While it is necessary to lay down uniform norms for TPRs throughout the country for different kinds of schools, it is equally important to optimise the TPRs through various means. Views of primary teachers of the schools of the sample were asked for about the different factors which may help optimisation. These are given in Table N. 7.6.

Table No. 7.6
Primary School Teachers, Views about Optimising TPR
 N = 342

Factors helping Optimisation		Most Important	Important	Not Important	Total
Reducing dropout rate	Rural	94	114	16	224
	Urban	29	58	12	99
	Tribal	6	8	5	19
Introduction of school complex system	Rural	98	100	26	224
	Urban	36	45	18	99
	Tribal	8	6	5	19
Use of teaching aids	Rural	144	69	11	224
	Urban	52	40	7	99
	Tribal	7	9	3	19
Involvement of students in co-curricular & extra-curricular activities	Rural	96	114	14	224
	Urban	47	41	11	99
	Tribal	5	9	5	19
Increasing enrolment of pupils	Rural	92	92	40	224
	Urban	31	44	24	99
	Tribal	7	8	4	19
Increasing the rate of retention of pupils	Rural	111	95	18	224
	Urban	37	48	14	99
	Tribal	9	5	5	19
Reducing failure rate	Rural	85	105	34	224
	Urban	33	45	21	99
	Tribal	4	7	8	19
Modernising curriculum and making it more relevant	Rural	133	79	12	224
	Urban	57	34	8	99
	Tribal	8	6	5	19
Modernising teaching techniques	Rural	146	62	16	224
	Urban	66	23	10	99
	Tribal	9	5	5	19

(a) Increasing the Enrolment and Reducing Dropout Rate

It would appear from Table 7.6 that most primary teachers think that factors like reducing dropout rate, introduction of school complexes, modernisation of teaching, use of teaching aids, increasing enrolment of pupils, increasing retention rate, etc. are vital for optimising the TPR. In so far as these factors are concerned, there is no significant difference

between the schools located in rural, urban or tribal areas. Their influence in improving the effectiveness of the teacher is irrespective of the location or type of the school. Every effort has, therefore, to be made to lay greater emphasis on these factors.

(b) Nutritious Meal Programme

Some States have tried in the recent past to optimise their TPR through enrolment drive by providing mid-day meal to children.

In Tamil Nadu, during 1982-83, a total of 2.26 lakh children of age-group 6-11 and 0.37 lakhs of age-group 11-14 were additionally enrolled. This impressive achievement was possible, according to the State Education Department, mainly due to the major impact of the Nutritious Meal Programme for children introduced from 1.7.1982 in rural areas and from 15.9.1982 in urban areas of the State. Under the programme as many as 42 lakhs of children were given Nutritious Noon-Meal through 33,831 School Centres (Primary and Middle) and 27,840 child Welfare Centres (Balwadis) all over Tamil Nadu. The children were fed on all the 365 days. Because of this programme, the enrolment percentages exceeded the all-India targets. The average number of pupils per teacher in primary and middle schools was reported to have worked out to 1:41. The scheme was costing the State Government nearly Rs.215 crores annually. It was alleged by a section of people that the noon-meal scheme could not obviously serve as a model on a continuing scale as it will hit other developmental projects (M.G. Srinath, 1984). Quoting a World Bank report Luthra (1987) has stated that the mid-day meal programme in Tamil Nadu has brought about higher school enrolment and an appreciable fall in the dropouts specially among rural children and those belonging to scheduled caste community. It has also helped combat malnutrition and poverty. However, it has adversely affected the student-teacher ratio and the teachers are finding it difficult to impart education to children who are coming to school for the first time. Investment in this scheme has since risen and is estimated to be of the order of Rs.270 crores in 1987-88.

Andhra Pradesh introduced the mid-day meal scheme in November, 1982. The scheme mainly aimed at:

- raising enrolment in primary schools;
- improving school attendance and reducing number of dropouts; and
- providing nutritious supplementary food to children.

It covered roughly 35 lakh children studying in classes I-IV in all primary schools in the State. In a note presented to the State Assembly in March 1983, the Government claimed that the scheme had successfully

achieved all the above three objectives. It was estimated that more than one lakh extra students had been enrolled due to the scheme. In 1983-84, the State Government allocated Rs 40 crores in its budget, decided to appoint separate staff to prepare food for the scheme, relieving teachers from the additional burden. It also decided to limit the scheme to students belonging to Scheduled Castes, Scheduled Tribes and backward classes.

But the scheme came under attack from different sides. It was suggested that the meagre resources of the State should be directed to more useful areas. In March 1984, the Government claimed that the enrolment of Scheduled Caste students had gone up from 1.67 lakhs to 11.30 lakhs and that of Scheduled Tribe students from 2.77 lakhs to 3.20 lakhs between March and December, 1983.

During 1985-86, however, the mid-day meal scheme was abruptly discontinued in Andhra Pradesh following innumerable complaints from legislators, including the allegation of corruption in the implementation of the scheme. (M. Shatrugna, 1985).

In Gujarat, the mid-day meal scheme was introduced in November 1984 for students of Classes I-IV in all primary schools. Personal investigations from some schools visited in Visnagar Taluka during the course of the study revealed that people were doubtful if the scheme would be successful. However, it was too early to say what shape it would take.

In Assam too, the mid-day meal scheme has been introduced in late 1984. A visit to Tangani Tea garden single-teacher school during the course of the study revealed that the scheme had made a significant impact on the enrolment of students. As against 40 children enrolled in classes I-IV in the school, the number shot up to over 60 soon after the introduction of the scheme. This happened even in the middle of the academic session.

It must be conceded that mid-day meal scheme is a very expensive proposition. It has had a mixed response. Many people see it as a political gimmick, a populist slogan for vote catching rather than for educational and health purposes. Whatever may be the advantages, it seems difficult to implement the scheme throughout the country for want of large resources it requires. In any case, before it is adopted by other States, a proper evaluation of the Scheme needs to be done.

(c) No Detention Policy

No detention policy for classes I to IV is another important strategy to optimise the TPR particularly for the primary classes. The highest drop out rate is reported to be in classes I and II, the reasons for which are more

socio-economic than educational. Detention during the early years of schooling is a frustrating experience for the child and it may push him out of the school system, observes NCERT (1985) in a study on Curriculum Load. Kerala has been able to reduce its dropout rate to 5 per cent at the primary stage by introducing, among other things, the no detention policy. While some other States have also introduced no detention policy, it has been alleged that the achievement level has gone down. This can be corrected provided there is a continuous diagnostic evaluation of the pupils, not to detain them but to take remedial measures for improvement in teaching-learning process.

(d) Improving Attendance of Pupils

It will be observed from Table 7.7 that out of 401 schools of the sample having class I, there were as many as 163 schools (40.65%) where the attendance in class I was below 75%. Out of these there were 24 (5.99%) where the attendance was below 50%. There were only 86 schools (21.45%) in which the attendance was more than 90%.

Similarly, for class V there were 57 schools (16.01%) where the attendance in the school was less than 75%. Here again there were three schools where the attendance was below 30%. It is surprising that in class IX also there were 2 schools where the attendance was below 50% and another six where the attendance was between 55 and 70%. It is only in 60% cases that the attendance in class IX was over 90%.

The above figures show that it will not be advisable to rely only on enrolments in so far as reckoning of the TPR and sanctioning of teachers are concerned. If pupil attendance is taken into account for purpose of TPR we will be avoiding unnecessary wastage of scarce resources and at the same time the position of the TPR will be more real.

Table No. 7.7

Schools with Different Percentages of Attendance in Classes I, V and IX

Attendance	No. of schools having		
	Class I	Class V	Class IX
Below 50%	24 (05.99)	3 (00.84)	2 (02.15)
51 - 75%	139 (34.66)	54 (15.17)	6 (06.45)

76 - 90	152 (37.90)	175 (49.16)	29 (31.18)
91 - 100%	86 (21.45)	124 (34.83)	56 (60.22)
Total	401 (100.00)	356 (100.00)	93 (100.00)

(e) Learning Oriented Teaching

The middle and high school teachers were asked to give their opinion about the mode of teaching which would be effective in order to optimise TPR, and their replies are given in Table 7.8.

Table No. 7.8

Opinion of Middle and High School Teachers to Make Teaching Effective

N = 228

Mode of Teaching		Yes	No	Total
Learning oriented	R	113	7	120
	U	95	5	100
	T	7	1	8
Examination oriented	R	10	110	120
	U	8	92	100
	T	1	7	8

Table 7.8 clearly shows that practically all the teachers have stated that it is learning-oriented teaching rather than examination-oriented teaching, which is important for making the teaching effective. The present emphasis on examinations where teaching is subordinated to examinations is unfortunate and has to be discouraged. This has particularly come into being with the undue importance the public examinations have for some time past assumed in our country. It is time that the examination system is given a new orientation so that teaching becomes learning-centred instead of examination-centred. Examination should really serve as a feed-back for improving the teaching-learning.

(f) Larger Use of Teaching Aids and Modern Techniques

The School heads were also asked to give their opinion about the steps to be taken for optimising TPR. Their views are expressed in Table 7.9.

Table No. 7.9

Opinion of School Heads about Steps to be Taken for Optimising Teacher-Pupil Ratio

		Very Imp.	Important	Less Imp.	Total
Conducting regular meetings with teachers of the school for identifying problems in teaching and taking appropriate measures	R	180	58	4	242
	U	204	52	3	259
	T	12	4	1	17
Conducting meetings with teachers of school complex/central school and using best methods which will be useful for effective teaching and learning	R	121	110	11	242
	U	141	109	9	259
	T	8	7	2	17
Conducting regular internal assessment and remedial teaching	R	135	91	16	242
	U	150	102	7	259
	T	12	5	—	17
Teachers are motivated to innovate new techniques which are followed by other teachers of school complex/central school	R	113	108	21	242
	U	107	136	16	259
	T	11	5	1	17
Use of teaching aids by teachers on a large scale	R	143	90	9	242
	U	146	98	15	259
	T	13	4	—	17
Conducting coaching classes for failed students	R	104	112	26	242
	U	99	129	31	259
	T	9	8	—	17
Adhering to minimum attendance eligibility for appearing in examination for promotion to higher class	R	126	90	26	242
	U	139	91	29	259
	T	10	4	3	17

Reducing failure rate by paying constant attention to all students	R	85	129	28	242
	U	100	134	25	259
	T	5	12	—	17
Preparing an institutional plan for optimising available resources	R	81	131	30	242
	U	95	129	35	259
	T	5	12	—	17

Here again, practically all the school heads feel that activities like conducting regular meetings of teachers of school complex with a view to identify the problems in teaching and taking appropriate measures to remove the same, motivating teachers to innovate and experiment new methods of teaching, exchanging the experiments with other teachers of the school complex, using teaching aids on a large scale, conducting coaching classes for failed students, etc. are some of the important steps which may lead to optimising the TPR.

(g) Institution of School Complexes

School complexes are an important means to do micro-level planning, increase enrolment of pupils, reduce absenteeism among them and improve their achievement. They are also useful for periodical meetings of teachers of the member-schools of the complex where the teachers can discuss and benefit from the experiences of each other. The idea of school complex which was recommended by the Education Commission in 1966 has not yet been implemented in many states. Some have introduced it half-heartedly.

The States of Maharashtra, Tamil Nadu and Haryana, have however done some useful work in the area of school complexes. The Rapport Based Programme of School Improvement of Maharashtra is an innovative way in which the institution of school complexes has been utilised to bring an all round improvement in schools, particularly the weak schools which had been consistently giving poor results (Singhal 1983). The National Commission on School Teachers (1985) recommended very strongly the adoption of the system of school complexes by all the States and UTs. The Steering Committee for the VII Five-Year Plan and the document Challenge of Education—a Policy Perspective brought out by the Ministry of Education Government of India (August 1985) also supported the idea of School Complex. The National Policy on Education (1986) has since recognised the merit of school complexes. Every effort now needs to be made to revitalise the scheme of school complexes so that not only the optimisation of TPR but also the optimisation of other

resources take place.

With the huge expansion of school education since independence, it has become rather impossible for the inspecting officers to closely supervise and inspect each school under their charge even once a year. The decentralisation of supervisory machinery is, therefore, now inevitable. The school complex system can serve as an important instrument for effective supervision.

Since nearly 36% of our primary schools are single-teacher schools, situated as they are in remote, inaccessible places, it is necessary that their supervision is localised. If the teacher of such a school is absent, the school has to be closed as there is hardly any substitute available immediately. Table 7.10 shows that in 15 out of 59 cases the school is closed when the teacher is on leave. In 33 cases higher authorities are approached for a substitute and it would not be surprising if by the time information reaches the Block Education Officer or Extension Education Officer and the substitute arrives, the school timings will have been over. 38 out of 50 never seek the help of the village people and obtain the services of an educated person, if any, available in the village. Only 12 out of 50 always and 8 sometimes try and ask the nearby school to provide a substitute in the event of the teacher being on leave. The school complex system can come handy not only to provide a substitute immediately, but also to check absenteeism among teachers of single-teacher and other schools.

Table No. 7.10

**Alternative Arrangements Made by Teachers of
Single-Teacher Schools while on Leave**

		Always	Sometimes	Never	Total
Ask some other educated person in the village to take the class	R	1	8	31	40
	U	—	1	—	1
	T	1	1	7	9
Ask the higher authorities to arrange for a substitute	R	16	10	14	40
	U	—	—	1	1
	T	3	4	2	9
The school is closed	R	6	4	30	40
	U	—	—	1	1
	T	1	4	4	9

Ask the nearby school to provide a teacher	R	10	6	24	40
	U	—	—	1	1
	T	2	2	5	9

It is not in the case of Single Teacher Schools only that real difficulty is felt when the teacher is absent from the school. The techniques adopted by heads of primary, middle and high schools for making alternative arrangements when the teachers go on short leave are indicated in Table 7.11. Particularly all the heads have said that they do not allow the class to remain without a teacher. In most cases either the headmaster/headmistress himself/herself takes the class or another teacher who has some knowledge of the subject is asked to do so. Only 25 out of 518 heads of schools are able to arrange a teacher substitute from the central school of the school complex. Another 53 arrange a substitute from sister school of the school complex. Only in 59 cases, temporary/ad hoc appointment of a substitute teacher is made by the head of the school.

Table No. 7.11

Alternative Arrangements Made by Heads of Schools in the Event of Teachers going on Short Leave

		Yes	No	Total
Class is left without a teacher	R	4	238	242
	U	2	257	259
	T	—	17	17
Another teacher takes class who has some knowledge about the subject	R	171	71	242
	U	193	66	259
	T	13	4	17
Headmaster himself takes the class	R	162	80	242
	U	179	80	259
	T	10	7	17
Arrangement for teacher substitute is made by central school of the school complex	R	13	229	242
	U	12	247	259
	T	—	17	17
Arrangement for teacher substitute is made by other schools of the school complex	R	23	219	242
	U	20	239	259
	T	—	17	17

Optimising Teacher Pupil Ratios

Temporary/ad hoc appointment of substitute teacher is made	R	26	216	242
	U	32	227	259
	T	1	16	17

R=Rural; U=Urban; T=Tribal

If a large percentage of teachers in a school are on leave every day and there are no arrangements for having a substitute the teaching is bound to suffer. A survey carried out for the Council for Local Education Authorities after teachers' union leaders in England had submitted a request for a national agreement on the provision of supply cover (substitute) shows that on an average about 10% of teachers are absent every day. This figure differs only slightly from a similar survey which was conducted by a Local Education Authority and it was found that 10.9% of their staff were absent. Sickness accounted for 49.9% of all absentees in primary schools and 49% in secondary schools; maternity leave covered 15.9% of all absentees in primary schools and 6% in secondary schools. Inservice training accounted for 12.4% of absentees in primary schools and 11% in secondary schools.

The method of covering an absent colleague differed widely in primary and secondary schools, says the Survey. In primary schools, supply teachers cover 48% of the time, while other staff fill in 25.6% of the time. In secondary schools, either teachers or the head of the school covers for the absence in about 65% of cases and in 27% cases a supply teacher (substitute) is called in. Therefore, in secondary schools, teachers are expected to take on additional classroom work in most occasions when a colleague falls ill or is absent for any reason. (Times Education Supplement dt. 29.8.1984).

The Thomas Committee in England recommended (January 1985) that every primary school should have at least one extra teacher without full time responsibility for a class to allow the rest of the staff elbow room to develop their own subject specialism. This may, however, not be feasible in a developing country like India but as recommended by the National Commission for Teachers for Schools in India (January 1985) it may be advisable to have one or two teachers for a cluster of schools (school complex) as relieving teachers so that the teaching in schools does not suffer.

(h) Managing Continuous Shortage of Teachers

When a school is continuously short of teachers, the head is in a

precarious condition. Out of 518 school heads who responded on this item, as many as 166 (32%) are reported to be continuously short of teachers. The techniques adopted by them for managing their schools efficiently despite continuous shortage of teachers are given in Table 7.12.

Table No. 7.12

Management Techniques Adopted by School Heads (other than Single-Teacher Schools) who are Continuously Short of Teachers

		Always	Sometimes	Never	Total
Run school in shifts	R	5	16	61	82
	U	6	8	64	78
	T	1	1	4	6
Decrease class strength at admission time	R	5	15	62	82
	U	3	7	68	78
	T	—	2	4	6
Decrease number of periods of some classes	R	—	18	64	82
	U	4	13	61	78
	T	—	1	5	6
Decrease the duration of periods	R	3	8	71	82
	U	—	14	64	78
	T	—	2	4	6
Combine some of the lower classes	R	29	33	10	72
	U	46	34	8	88
	T	2	3	1	6
Arrange teacher substitute from central school of the school complex	R	6	13	63	82
	U	1	16	61	78
	T	—	1	5	6
Take community help for teaching	R	1	15	66	82
	U	—	19	59	78
	T	—	1	5	6

Take help of parent-	R	5	21	56	82
teacher Association	U	3	22	53	78
	T	—	1	5	6

R=Rural; U=Urban; T=Tribal

The most common practice seems to be to combine some of the lower classes in the event of continuous shortage of teachers. Out of 166 schools, 77 always, 70 sometimes and 19 never do so. No help is taken from the community by 130 out of 166 schools in this matter. Only 35 take the help of the community sometimes. There is only one school (rural) which says that it always takes the help of the community in meeting the shortage of teachers. Even the help of PTA is taken only by 8 schools regularly and by 44 schools sometimes. The rest 114 schools never do so. In so far as taking the help of the central school of the school complex is concerned, again, only 30 schools do so sometimes and only 7 always.

(i) Effective Classroom Management

Effective management of the class is *sine qua non* for sustaining interest of the child in the class and for higher achievement. Bad management of class by the teacher would result in more of drop outs and larger repetition rate. The quality of teaching-learning would also be greatly affected in an adverse manner. On the other hand, good management of class by the teacher would improve the results considerably.

It is only when the classroom is properly managed, when the teacher is master of the appropriate skills and techniques, that proper teaching and learning, or any worthwhile relationship between teacher and pupils, can take place (Smith, 1985). According to Smith, this aspect of classroom has been put even more strongly by Michael Marland (1980) thus:

"The paradox is that good classroom management makes personal teaching possible, for it frees the individual from constant conflict and only then can the teacher be truly personal. Good organisation in the classroom avoids confrontation, and allows the teacher to establish the warm relationship with most of his pupils that he wants."

The effectivity of a classroom is by and large influenced by three important variables:

- The teacher : his motivation and professional competence
- The pupils: their socio-economic and cultural background
- Other factors: such as physical facilities, class-size, curriculum,

THE EFFECTIVE CLASS - ROOM

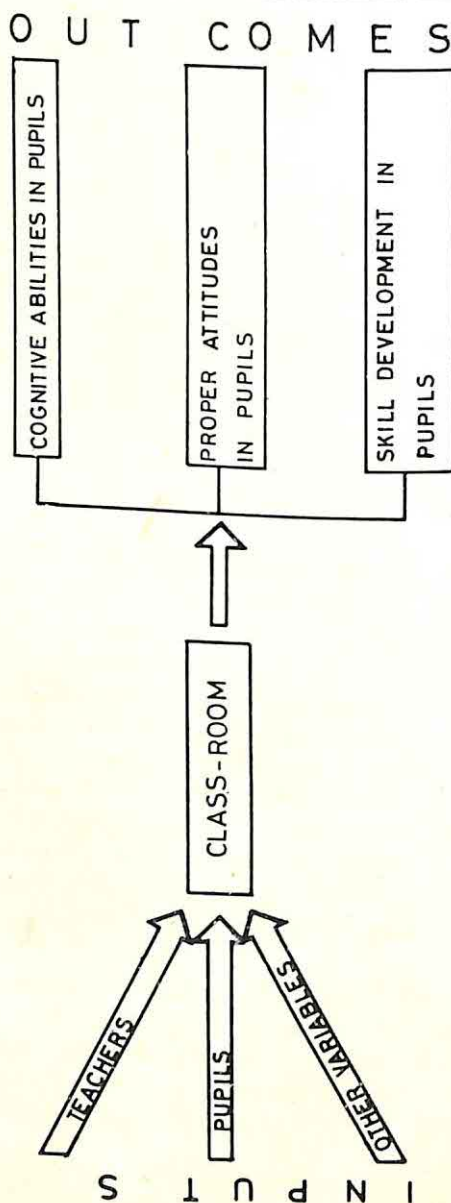


Fig. 7.1

societal/community response, environment, use of teaching aids, work-load of teachers, supervision, and policy interventions like no detention policy, incentives and scholarships.

(j) Teacher: The Key Factor

All the aforesaid three variables are important for maximisation of outcomes. But the most important of them is the teacher. His quality, motivation, relationship that he establishes with his pupils and the innovative ways which he adopts in his teaching may more than compensate other inadequacies and deficiencies, such as, pupils coming from disadvantaged families, lack of attention by parents who may be illiterate, absence of pucca class-room and furniture, etc. Flanders and Simon (1969), Rosenshine (1971), Gage (1972) have related teacher behaviours and characteristics to pupil growth. Flanders had chosen classrooms in which pupils had more favourable or less favourable attitudes towards the class room, and observational data were then collected. These data were related to both attitude and achievement measures. The results indicated that positive relationships existed between teacher behaviour, pupil achievement growth, and more positive attitudes on the part of pupils.

Neville Bennett (1976) has summarised the results of various research studies in this sphere as follows:

- (1) Although the evidence is equivocal it would appear that positive teacher behaviours are generally more conducive to better pupil growth on most achievement measures.
- (2) There is a possibility that these relationships may vary or be non-linear, depending upon (i) the task of complexity of achievement measure, (ii) grade and level and (iii) level of ability of pupils.
- (3) There is evidence that these relationships may be mediated by the anxiety level of the pupil.
- (4) Positive teaching behaviours appear to generate more positive attitudes to school and school work.

In India too a number of researches have pointed to the factors contributing to teacher effectiveness. Sharma (1971) aimed at studying the relationship between characteristics possessed by teachers, and teacher effectiveness with a view to predicting teacher success. The product criterion happened to be the pass percentage of the students taught by the teacher. The study, which was conducted on 700 teachers of normal government schools of Uttar Pradesh found that the teacher talk seemed to have negative correlation with scores on the Pandey's Teaching Aptitudes Test and academic grades. The combination of five predictors, namely,

teaching aptitude, academic grades, socio-economic status, teaching experience, and age, in order of their arrangement, appeared to be sound predictors of teacher effectiveness. Some researchers in India have also done studies to develop tools to measure teacher effectiveness. These studies are of Jayamma (1962), Shah (1962), Sherry (1964), Bhattacharya and Shah (1966), Pandey (1968), Prasad (1970) and Pandya (1972). The inventory for predicting teacher efficiency for the primary school teachers of Mysore State was constructed by Jayamma (1962) on the basis of a questionnaire administered to 500 teachers drawn from sixty institutions. Shah (1962) constructed an aptitude test for secondary school teachers. The items were developed on the basis of personal experience and discussions with training college teachers, education department personnel, secondary school principals, veteran teachers, and successful and unsuccessful teachers. Sherry (1964) developed a battery of psychological tests for prediction of success in teaching by involving the pupil teachers of department of education and the training colleges affiliated to the Agra University in Agra region. The criteria for teaching efficiency were supervisor's ratings, final practice teaching examination marks, and final theory examination marks. The battery included an intelligence test, an interest inventory, a personality inventory, and an attitude scale, all of which were prepared by the investigator. It was found that supervisor's ratings could be predicted to a satisfactory extent by all the four tests. Bhattacharya and Shah (1966) developed a teacher efficiency inventory in Gujarati to be used as a satisfactory tool for prognosticating teachers' efficiency. The attitude and resourcefulness of the teachers were the aspects covered in the inventory.

Prasad (1970) developed a teacher efficiency observation schedule. Pandya (1972) developed a professional test for teachers to measure the various traits needed to be present in an individual to become a good professional in teaching. The items to measure the different traits were developed on the basis of opinions of forty experts, experienced educationists, and educational administrators. In the construction of the different tools to measure 'teacher effectiveness', mostly the criteria used are the opinions of teachers, heads or experts in the field.

Kulandaivel and Rao (1968) attempted to analyse the qualities of a good teacher as rated by 2662 students. According to the findings of the study, the good teacher is one who teaches well, inspires good qualities in the students, reteaches a lesson when not understood by the students, does not have caste prejudices while treating students, and so on.

Happily, the National Policy on Education (1986) adopted by the

Government of India gives an important place to the teacher and envisages a continuous process of teacher education. A big challenge lies before the teacher to meet the thrusts of the New Policy.

(k) Integrating Education and Work

Integrating education with work in schools is yet another means of optimising teacher-pupil ratios. It has often been observed that children have to support their parents by working for wages. This is one of the major causes for irregular attendance in schools and for drop out. In Hupri in Kolhapur district of Maharashtra, children are allowed to do silver work which is a home-craft in the township, as a part of regular timetable in the schools. Children are thus able to earn a few chips daily and thereby supplement the income of their parents. This has helped to increase the attendance rate and reduce drop outs. Similar experience is found in Madhya Pradesh where the scheme of 'Earn While You Learn' has been able to retain children in schools.

(1) Setting up Some Residential Schools for Rural Children

Realising that it is uneconomic to establish a school with less than 10 children in a hamlet, the Government of Assam has proposed in the Seventh Five-Year Plan to establish one Ashram type residential school in each district. It is reported that the setting up of a residential school is more economic from the point of view of schooling cost. It also releases the poor parents of the backward areas from the burden of providing clothing and food to their children. The unit cost per school of this type is roughly calculated to be Rs 8.46 lakhs per annum (recurring) and Rs 10.50 lakhs (non-recurring, for the starting year only) for a capacity of 350 students. Similar projects may be taken up by other States to optimise TPRs. This would help to reduce the number of non-viable and un-economic schools in far flung areas.

The Government of India has decided to open a model residential school in each district under the Seventh Five-Year Plan for rural talented children. Since these schools will provide free education including board and lodging, they will also help to increase the attendance rate and optimise the TPR.

(m) Mobile Schools

Opening of mobile schools is another strategy which should be encouraged in such areas where it is not economic to have a whole-time regular school throughout the year. Assam Government for example, has

proposed to set up some mobile schools with prefabricated structure for school buildings in Char areas. The unit cost per school is calculated to be Rs 58,400 only (current prices). J & K also has a provision for mobile schools in high altitude areas. Similar provisions should be made in other States also wherever the situation so demands.

(n) Stipend Teachers

Since it is not possible to convert all the single-teacher primary schools into double-teacher schools for want of adequate resources, innovative methods have to be thought of in order to supplement the teacher requirements in such schools. Again, to quote Assam, the State Government has decided that during the Seventh Plan, they will recruit additional teachers on a fixed stipend of Rs 200/- per month only for a year. On completion of the probation period, these teachers will be deputed for training for a period of one year. During the period of training a sum of Rs 50/- per month will be given in addition to the monthly stipend and after successful completion of the training they will be given regular scale of pay and other allowances as admissible under the Assam Government rules. The rate of stipend for the teachers to be appointed in the middle schools will be Rs 250/- per month.

In Himachal Pradesh, an additional voluntary teacher has been appointed in each of 1800 single-teacher schools during 1984-85. Such a voluntary teacher is paid a stipend of Rs 200/- p.m. if he/she is matriculate & Rs 250/- p.m. if he/she is a graduate. The appointments have been made for two years in the first instance.

(o) Rational Decision Making

An important factor which influences the teacher-pupil ratios is the erratic decision making in creation of posts and appointment of teachers at the administrative and political levels. Wherever the decisions are based on rational norms and guided by equity, quality and excellence, teacher-pupil ratios will operate satisfactorily. In that event, even the funds will be properly utilised and results well achieved. Once the decision making is erratic and irrational and is guided by considerations which are not justifiable, the teacher-pupil ratios will get upset and work counter to the interests of the pupils. It is, therefore, essential that decisions regarding creation of posts, appointment of teachers and funding are rational and not erratic.

(p) Community Involvement and Formation of Local School Committees

A local school committee should be formed in every village where there

is a school. The members of the committee should be nominated by the Department of Education/local body after a careful consideration. The committee should play a supportive role for the school, mobilise additional resources to improve its physical facilities, and ensure that all eligible children are enrolled in the school and they attend the school regularly. The formation of a local school committee has also been suggested by the School Education Reforms Committee appointed by the Government of Maharashtra (1984).

(q) Minimising Transfers of Primary School Teachers

Appointments and transfers of primary school teachers should not be made in the middle of an academic year. They should be made before the beginning of the academic year. If a primary teacher resides at the place of work it will help him to establish a good rapport with the parents and that will also help to increase the attendance of pupils and achieve qualitative improvement in education. Transfers of primary school teachers should, therefore, be minimised as far as possible and every primary teacher should reside at the place of his/her work.

(r) Vacations

Vacations in schools should be adjusted to correspond with agricultural seasons in rural areas.

(s) Reducing Curriculum Load

During the course of a study conducted by the NCERT (1985) on 'Curriculum Load at the School Level: A Quick Appraisal' it has been observed that in four States and one Union Territory, namely, Karnataka, Rajasthan, Madhya Pradesh, Orissa and Delhi, the size of the class in a number of schools ranges between 50 and 60. Overcrowding in classes is generally perceived as heavy curriculum load because it gives little time to teachers to pay individual attention or organise remedial teaching. However, the results of the survey conducted in Delhi do not support the contention that there is positive relationship between the class size and perception of curriculum load. But in the case of teachers teaching a class of more than 45 pupils increased load in subjects like Science and English is perceived. This, according to the study, could be due to the nature of the subjects. Science requires practical work and English requires a pattern practice and lot of oral work.

(t) Effective Monitoring and Supervision

This is absolutely necessary to raise the internal efficiency of the system

and to maximise the outcomes. Wherever supervision is ineffective, teachers are found to be not fully occupied. Even the schools have not worked for the required number of working days in a year. Proper monitoring system at different levels of administration needs to be evolved. School inspection system needs to be modernised and a professional approach adopted. (Singhal et al, 1986). While on the one hand, accountability on the part of the personnel has to be ensured, steps have also to be taken to enhance their competence through training at regular intervals. The training programmes of the National Institute of Educational Planning and Administration (NIEPA) could be fruitfully utilised by the States and UTs for training of key level functionaries as also for training of trainers.

Vital Issue

Undoubtedly, the question of TPR is a very vital one for a developing country like India. Every effort needs to be made so that the scarce resources are not frittered away, the priority programmes of providing educational opportunity to all children are properly implemented in a given time frame and the quality of education is improved.

References

1. Bhattacharya, S & Shah, M.M., *Try-out and Standardisation of Teacher Efficiency Inventory*, Centre of Advance Study in Education, Baroda, 1966.
2. *Challenge of Education: A Policy Perspective*; Ministry of Education, Government of India, 1985.
3. *Draft VII Plan (1985-90) and Annual Plan, 1985-86*, Govt. of Assam, Vol.V (Education), 1984
4. *Educational Management in India—A Diagnostic Study for Tamil Nadu*, Directorate of School Education, Madras; NIEPA, 1984.
5. Jayamma, M.S., *Construction and Standardisation of an Inventory for Predicting Teacher Efficiency (for the primary school teachers of Mysore State)*, Ph.D., Edu., MSU, 1962.
6. Kulandaivel, K. and Rao, T.R.S., *Qualities of a Good Teacher and a Good Student (A Study in Student Ratings)*, R.K. Mission Vidyalaya, Coimbatore, 1968.
7. Luthra, J.R., *Better Nutrition, Better Literacy*; The Hindustan Times, New Delhi, May 1, 1987.
8. Michael, Marland, *The Craft of the Class-room*, Heinemann, London, 1980.

9. NCERT: *Curriculum Load at the School Level—A Quick Appraisal: Report of the Working Group on Curriculum Load*, 1985.
10. Naik, J.P.: *The Economics, Social and Family Context*; in 'The Child's Right to Education', edited by Gaston Mialaret, Unesco, Paris, 1979.
11. *National Policy on Education*, Government of India, May, 1986.
12. Neville Benett et al: *Teaching Styles and Pupil Progress*; Open Books, London, 1976.
13. *Programme of Action, National Policy on Education*, Government of India, August, 1986.
14. Pandey, K.P., *Construction and Standardisation of a Teaching Attitude Test (to be used for Selection Purposes in the Institutes of Teacher Education for Primary Level)*, Ph.D., Edu., Jiw.U., 1968
15. Pandya, B.G., *Professional Test for Teachers*, Ph.D., Edu., Bom.U., 1972.
16. Padma, M.S., *Teaching & Teacher Behaviour, A Trend Report, in Second Survey of Research in Education*, M.B. Buch (Ed.) Society for Educational Research & Development, Baroda, 1979.
17. Prasad, M., *Evaluation of Professional Efficiency (Abilities) of Primary School Teachers in Service*, Ph.D., Edu., Sag.U., 1970.
18. *Report of the School Education Reforms Committee*, Government of Maharashtra, Bombay, 1984.
19. *Report of the National Commission on School Teachers*, Government of India, Ministry of Education (1985).
20. *Report of the Steering Group on Education, Culture & Sports for the Seventh Five Year Plan (1985-90)*, Planning Commission, 1984.
21. *Report of the Seminar on Teacher-pupil Ratios for Schools in India*, NIEPA, 1986.
22. Singhal, R.P.: *Revitalising School Complexes in India*; Concept; NIEPA, 1983.
23. Singhal, R.P., Bhagia, N.M., Kalpande, V.A. and Nair, T.K.D., *School Inspection system — A Modern Approach*, NIEPA; Vikas, New Delhi, 1986.
24. Shatrugna, M., *No Mid-day Meals for Poor Children in Andhra Pradesh*; in *Economic and Political Weekly*, May 25, 1985.
25. Smith, Richard, *Freedom & Discipline*, George Allen & Unwin, London, 1985.
26. Srinath, M.G., *TN Noon Meal Scheme no panacea*, in *Hindustan Times*, New Delhi, Dated 19.10.1984.
27. *Strategies for Large Classes at Secondary Stage—Report of the Workshop held by NCERT, Field Adviser's Office, Chandigarh*, 1983.

28. Shah, M.M., *An Aptitude Test for Secondary School Teachers—Construction and Standardisation*, Ph.D., Edu., MSU, 1962.
29. Sharma, R.A., *A Study of the Relationship of Predictors of Teacher-Effectiveness at Elementary Level and Follow-up After One Year of Training*, D.Phil., Edu., Mee.U., 1971.
30. Sherry, G.P., *A Battery of Psychological Tests for Prediction of Success in Teaching*, Ph.D., Edu. Agra U., 1964.
31. *Survey Reports of Educational Administration in Tamil Nadu, Assam, U.P., West Bengal and Andhra Pradesh*, NIEPA, 1978.
32. *Ten Tarnished Truths Reconsidered*, in *Educational Forum*, Vol. XLVIII, No.1, Fall, 1983, Kappa Delta Pi, Indiana, USA.
33. Zhonghan, Li: *Raising Pupils' Levels in Disadvantaged Environments*; in *'Education in Asia and the Pacific'*, Unesco, Bangkok, September 1983.

Chapter VIII

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Earlier Researches

Previous researches show that the question of class size and optimum teacher-pupil ratio for schools has remained a highly controversial subject. Research findings are divided. Whitney and Willey (1932), Michael Rutter (1979) and Glass V. Gene et al (1982) have favoured a smaller class size by observing that "smaller was better and the smallest possible was best of all". Others like Simon Haskell (1964) and Jamison (1982) have favoured larger classes. Rice (1902) had observed that there was no strong relationship between class size and attainment of pupils.

Glass V. Gene et al, who have done an extensive meta-analysis of 77 empirical research studies on class size and its relationship to achievement over 80 years (1900-1979), have found that 60 per cent of these studies favoured the smaller class. Jamison has however argued that 40 per cent of the class size comparisons that were examined had failed to show an advantage for the smaller class and, therefore, it was not necessary to have smaller classes in schools. According to him, the search for improving school quality must, for reasons of efficacy as well as cost, go beyond improving the student-to-teacher ratios. Instead of reducing the class size, other alternatives should be adopted for improving school quality such as increasing the school time and using educational technology for effective teaching-learning.

Developed and Developing Countries

The question of optimum teacher pupil ratio assumes greater importance particularly with reference to the developing countries where opportunity for education has to be provided to all children despite serious constraints of resources.

A world view of this matter shows that developed countries generally have a TPR of less than 30 whereas developing countries have TPRs which

range from 31 to 60. There is no developed country which has a TPR of more than 40 whereas the majority of developing countries have a TPR of over 40. Moreover, the trend for the developed countries is that more and more of them are having lesser and lesser TPRs whereas the trend in respect of developing countries is the reverse of it.

India: Post-independence Status

The Education Commission (1966) had observed that in India accessibility was the over-riding consideration at the elementary stage and the small schools notwithstanding their heavier cost and lower efficiency must be accepted. It recommended the optimum size of a school as follows:

For a primary school	4 to 5 teachers with an enrolment of 160 to 200
For a middle school	A teacher for each class and enrolment of 300 to 400.

The Commission visualised that TPR of 1:40 per class would be an ideal ratio for schools. It noted that about one-third of all primary schools had enrolment of less than 40 pupils. It also noted that only one-third of middle schools fulfilled the norm of optimum size of a middle school proposed by it.

The All-India Educational Surveys conducted in 1973 and 1978 showed that the position had not changed over the years. According to Fourth All-India Educational Survey (1978), there were 32.45 per cent primary schools which were single teacher schools. The percentage of such schools in rural areas had come down from 40.84 per cent in 1965 when the first Survey was conducted, to 35.69 per cent in 1978. The percentage of primary schools with an enrolment of up to 40 only had also come down from 28.75 per cent in 1965 to 19.08 per cent in 1978, and this was particularly visible in rural areas.

The Fourth Survey also revealed that at primary stage, the TPR was below 30 in 29.18 per cent schools; it was above 50 in 17.9% schools. In rural areas it was below 30 in 29.5% schools and above 50 in 17.86% schools. In urban areas, it was below 30 in 26.10% schools and above 50 in 17.21% schools. Private unaided schools were better placed with teacher-pupil ratio of less than 30 in 43.23% schools followed by Government schools where this ratio was found in 35.10% schools. The percentages of such schools amongst local body and private aided schools were 24.95 and 24.18 respectively.

In so far as middle schools were concerned, the position regarding one teacher and two teacher schools had improved considerably since 1965. In 1978 there were only 8.55% rural middle schools and only 1.98% urban middle schools which had just one or two teachers as against 48.81% and 10.81% respectively in 1965. The percentage of middle schools with only 3 to 4 teachers also came down during the period, whereas percentage of the schools having five or more teachers went up. 70% of the schools had 5 or more than 5 teachers in 1978. The percentage of middle schools having TPR of 31 to 40 had more than doubled during the period i.e. from 14.93% in 1965 to 31.05% in 1978. Similarly, the percentage of schools having TPR of 41 to 50 increased three-fold from 6.70% to 21.90%. Even the percentage of schools with TPR of over 50 went up from 2.74 to 17.85. This showed a trend towards larger class size at the middle stage.

Current Position

The present study, which was an all-India study, covered 580 schools in 58 districts spread over 20 States and 1 Union Territory. The 58 districts were selected at random at the rate of one district from each National Sample Survey (NSS) region so that different typologies and regions were duly covered. The schools in the sample included rural schools, urban schools, tribal schools and single teacher schools. They were also from hilly and other areas which were not easily accessible. These schools represented all the three levels, viz., primary, middle and high schools. They also included schools run by different kinds of managements i.e. State Governments, Zilla Parishads, local bodies, private aided and unaided. More than 1000 teachers, heads of schools and district education officers from all these districts were interviewed and their responses were quite revealing and proved to be very useful in the study.

MAJOR FINDINGS

Actual TPRs

1. On the basis of data collected and analysed, the study has revealed that for the sample schools of all the States together the teacher-pupil ratios (Stagewise) for the year 1982-83 worked out as follows:

Primary Stage	:	1:36
Middle Stage	:	1:28.5
High School Stage:		1:24

2. The TP ratios for rural and urban schools in the sample are as follows:

	Rural	Urban
Primary Stage	1:37	1:35
Middle Stage	1:29	1:28
High School Stage	1:16	1:36

3. The difference between rural and urban schools is not significant except in the case of high schools where the ratio is notably low in rural schools as compared to urban schools.

Primary Stage

4. At the primary stage in rural areas, Andhra Pradesh has the highest TPR (1:46), whereas Assam has the lowest (1:22). In Urban areas, Tripura has the highest (1:55) and Rajasthan the lowest (1:25).

5. Of the rural primary schools studied in Andhra Pradesh, 43% have a TPR of over 1:50. 19% have a TPR which varies from 61-70 and nearly 10% have more than 70 students per teacher. In Rajasthan also, 30% rural primary schools in the sample have a TPR of over 1:50. There is one school where the ratio is between 1:61 and 1:70. In UP 11% rural primary schools have a ratio of 61-70 and even more than 70. In J & K, the percentage of rural primary schools (17%) having over 70 students per teacher is the highest in the country amongst the schools covered by the sample study.

6. High TPR at primary stage in quite a few schools particularly in rural areas is a common phenomenon of the States like Andhra Pradesh, Bihar, J & K, Madhya Pradesh, Orissa, Rajasthan and UP, which are considered to be educationally backward States from the point of view of UEE. In urban schools, however, the position is not that alarming even in educationally backward states, although one urban primary school in Andhra Pradesh has TPR of 1:81.

7. Most of the primary schools covered by the study in all States both in rural and urban areas are having TPR between 30 and 50. While in the States like Haryana, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, UP and West Bengal, larger number of schools fall in the category of 31 to 40 students per teacher, the remaining States fall more in the category of 41 to 50 students per teacher. Smaller States like Meghalaya and Himachal Pradesh have a more favourable TPR and there a significant number of schools falls in the category of TPR below 30. In Punjab, Rajasthan, Karnataka, Bihar, Assam, UP and J&K there are some schools

which have even a TPR below 20.

Middle Stage

8. At the middle stage, Gujarat has the highest teacher pupil ratio (1:44) amongst the rural schools, whereas Tripura has the lowest (1:7). In urban schools, Kerala has the highest ratio (1:50), whereas Bihar has the lowest (1:15).

9. As compared to the primary stage, the position at the middle school stage is better in respect of TPR. Most of the middle schools have a TPR between 1:31 to 1:40. There are a few schools which go up to 1:50. In some stray cases the TPR is between 1:51 and 1:60. In Tamil Nadu, there are 3 urban schools (out of 12) where TPR is 51 to 60. There is one urban middle school in Andhra Pradesh where TPR is more than 60. Similarly, there is one rural middle school in Andhra Pradesh and one urban middle school in Manipur where TPR is over 1:70. There are, however, a number of middle schools in practically all the States having TPR below 20 or in the category of 21 to 30. Rural middle schools are generally having a lower TPR as compared to urban middle schools.

High School Stage

10. At the high school stage, for rural schools, Bihar has the highest TPR (1:38) and Madhya Pradesh and Himachal Pradesh have the lowest (1:15); for urban schools, Andhra Pradesh has the highest (1:68) and Punjab the lowest (1:15).

11. The position of TPR at high school stage is better as compared to both primary and middle stage. Most of the high schools have a TPR between 1:21 to 1:30. There is a sizable number having TPR below 20. There are a few schools with TPR which varies from 31 to 40. In Andhra Pradesh out of 8 high schools covered by the study, 3 have a TPR between 61 and 70. This is a unique position throughout the country. While there is no high school having a TPR over 70 in the country, there is one out of seven high schools covered by the study in Karnataka and three out of 13 high schools covered by the study in Tamil Nadu which have a TPR between 51 to 60.

12. Even though many high schools have a smaller teacher-pupil ratio, there is hardly any individualized attention by teachers, nor are the examination results in any way better as compared to schools having larger TPR.

Inadequate Facilities

13. The role of a teacher in attracting students to school and retaining them in classroom as also in providing reasonably satisfactory standard of teaching-learning depends to a large extent on the provision and availability of certain essential facilities in schools. The study shows that out of 319 primary schools, as many as 142 (44.5%) primary schools do not have any furniture for students to sit on. In 98 schools (65 rural and 33 urban) i.e. 30.7% there are not even 'tat pattis' for them. 16 schools do not have blackboards in class rooms. There are no science kits in as many as 134 primary schools. In 171 primary schools there is no material for games and sports. Maps and charts are not available in 43 schools.

14. Even among the middle schools, 46 out of 156 (29.5%) do not have any furniture for students. 60 schools (38.5%) do not have even 'tat-pattis'. About 90 schools (57.7%) do not have any science equipment for teaching purposes. 14 schools do not have any library.

15. What is still more alarming is the fact that out of 100 high schools surveyed 47 do not have even science kits, what to talk of science laboratories. One school does not have any library worth the name and two do not have any games or sports material. The teachers' helplessness in providing proper guidance to students in such a situation and for poor performance of the latter in board's high school examinations and in games and sports activities etc. can be very well appreciated.

16. Further, only 47% rural and 41% urban middle schools have adequate furniture for their teachers. Since less than 50% schools have maps and charts in adequate number, teachers find it difficult to teach. High schools are, however, on the whole in a better position in this behalf as about 80% of schools have adequate number of blackboards, over 50% have adequate science equipment and nearly 70% have adequate library books. About 57% rural and 73% urban high schools also have adequate games and sports equipment.

17. In the matter of provision of physical facilities like classrooms, library room, craft room, staff room, play-grounds, etc. the study reveals that the position can be stated to be satisfactory in so far as availability of classrooms is concerned as only 3 urban and 15 rural primary schools and 1 rural middle school do not have classrooms out of a total of 580 schools. But for other physical facilities, the position is disappointing. For

example, in 126 (48 urban and 78 rural) high schools, there is no library room. There is no craft room in most of the schools, whether primary, middle or high. No facility exists by way of audio-visual room in practically all the schools. There are no playgrounds in 154 primary schools, 45 middle schools and 17 high schools.

18. Even essential facility like drinking water is not properly available in 144 primary schools (111 rural and 33 urban), 35 middle schools (20 rural and 15 urban) and 10 high schools (7 rural and 3 urban). Similarly, urinal and lavatory facilities are wanting in nearly half of the schools.

Class Size and Teacher Effectiveness

19. Nearly half (52.63%) primary school teachers are of the view that class size is an important criterion for effective teaching; whereas another half (47.37%) feel that it is not so. The position does not vary significantly between rural, urban and tribal schools.

20. Majority of the teachers, however, are of the opinion that it is the teaching techniques used by them, which influence the learning process more than anything else. These techniques include:

- good presentation of lesson by teachers
- maximum use of teaching aids
- use of innovative methods in teaching
- relating teaching-learning to environment
- making teaching-learning relevant to the needs of students
- involving pupils in learning activities

21. Involvement of pupils in co-curricular activities is important for all round development of the child's personality. According to study, only 37% teachers including teachers of rural primary schools do always involve children in physical activities, 45% do so sometimes and 18% never do so.

22. Nearly 30% teachers always involve children in organising plays, dramas, prayers, action songs etc., 57% do so sometimes and 13% never do so.

23. At the middle and high school stage, it is found that 37.5% rural teachers always try and relate their teaching to day-to-day life activities, 45% do so sometimes, 17.5% never do so. In urban schools, 27% teachers

do so always, 48% sometimes and rest do not do so at all.

24. In a subject like Maths, where a good deal of practice has to be given to students in solving exercises, 53% teachers always take interest in it, 20% do so only sometimes and the remaining never do so.

25. Similarly, only 31.6% teachers in rural schools and 30% in urban schools guide the students in using the school library properly, which seriously affects the quality of education.

26. Only 29% teachers engage themselves in subject related activities.

27. Nearly 50% teachers still use the threat to punish, in order to sustain the interest of the students in the class.

28. Most of the teachers and heads of schools do take special interest in the weak students. But it is not common with teachers to pay extra attention to those who have failed. It is only 12% urban school teachers and 24% rural school teachers who coach failed students by taking extra classes for them.

Home Assignments

29. It is observed that in single-teacher schools, there is by and large no practice of giving home assignments to students. This is so because the teacher has to handle all the classes single handed besides attending to the administrative work of the school and, therefore, has no time to check home work.

30. In other primary schools, 74% teachers give home assignments daily, 11% do so on alternate days and 5% do so once a week. Only 3% never give any home assignment to their students. The rest use only holidays for the purpose. The situation is almost similar in middle and high schools.

31. As regards the techniques adopted for checking home work of students, most of the teachers check it during recess or other free period in the school. Only a few take away note-books to their houses to check them. The position does not vary much between rural and urban schools.

Reasons for Poor Performance

32. According to the teacher-respondents, they themselves are not in any

way responsible for poor performance of students. Two basic reasons put forth by them are:

- (a) ignorance of parents about the importance and value of education for children; and
- (b) too much burden of work (other than that of school) which the children are required to do at their homes.

Untrained Teachers

33. The study has revealed that out of 1088 teachers and heads of schools covered in the sample from different States, only 331 (30.4%) are trained graduates. 14% do not possess any training degree or certificate and most of them are teaching in primary schools. 40% of single-teacher schools have teachers who are not even Junior Basic. 89 teachers of even middle and high schools and 294 heads of schools possess only a Junior Basic Training Certificate. The inadequacy or lack of pre-service training is a serious handicap in improving teacher effectiveness.

Teachers' Work Load

34. Different States have prescribed different norms of work load for teachers at different stages of education.

35. At the primary stage, normally there is one teacher per class (or a section of a class) in all States and UTs. There are some States which do not prescribe any minimum class size at this stage whereas there are others which lay down particular class size for a teacher to handle, e.g. in Haryana one teacher is provided for first 50 students and thereafter it is one teacher per 45 students. In Maharashtra, for a single teacher school (standards I-IV), one teacher is provided upto 40 students.

36. At the middle and high school stage, a teacher is required to teach a certain minimum number of periods per week. The number of such periods varies from State to State, the range being 24 periods (in J & K) to 39 periods (in Haryana) per week. The duration of period is generally 45 minutes. There is hardly any rationale for such a wide difference in work load for teachers in different states.

37. Heads of middle and high schools have lesser teaching load. It ranges from 12 to 18 periods. They however, do not find time to teach even that much owing to their administrative responsibilities.

Gap between Work Load Prescribed and Actual Work Load

38. Although, in no State less than 20 periods per week have been prescribed for a teacher, yet it is found that there are 8.5% teachers in the schools of the sample who teach only 16 to 20 periods per week; 19.3% teachers teach only between 21 to 30 periods per week. Only 55.8% (580 out of 1088) teachers teach more than 30 periods a week. Category-wise only 87.7% primary school teachers and only 55.3% middle and high school teachers teach more than 30 periods a week. 2.5 % school heads do not take any class and, therefore, do not teach at all.

Actual Working Days

39. The study has revealed that there were 8% schools which worked for less than 200 days in a year, about 18% for less than 210 days and 51.8% (cumulative percentage) for less than 220 days. Thus nearly half the schools have worked for less than the days which are generally prescribed as the minimum working days for schools.

Non-teaching Assignments

40. Although teachers are expected to undertake a variety of non-teaching assignments, it is observed that most of them do not engage themselves in such work. Activities like science club, audio-visual incharge, NCC/Scouts incharge, examination incharge, library incharge, etc. are performed by only an insignificant number of teachers. The position does not differ in rural, urban and tribal schools.

Teacher and the UEE

41. The programme of UEE has lately been given a very high priority by the Government of India. The UEE has to be achieved by 1995. But out of 342 primary school teacher respondents as many as 104 (30.4%) do not conduct annual census of children of school going age in the neighbourhood of the school. This is quite a high percentage and calls for serious attention by the authorities.

42. In tribal areas, nine out of ten schools do not conduct annual census of children.

43. More than half of the primary teachers do not approach each household to ensure that all students identified in the annual census join the school. Of 342 primary school teacher respondents as many as 195 either live on the campus or within 1 to 3 kms of their school. It should, therefore,

be not difficult for them to visit households, find particulars of non-enrolled children and make efforts to bring them to the school or non-formal education centres.

44. It is disappointing to find that a large porportion of schools do not fully utilise the various incentives provided for SC, ST students, girls and children of other backward communities. Even free uniforms are not utilised fully by schools.

45. Heads of schools do not spend much time on supervision and guidance of teachers and on student services and community work. Most of them spend only upto 10% of their total time on such activities.

Wide Variations in Norms of TPR

46. The norms of TPR vary from 1:20 to 1:55 in different states. There is hardly any justification that the norms should differ so widely from state to state.

47. In most of the states at present the enrolment and not the attendance of students is the major criterion for sanctioning teachers for schools.

48. Different states have different practices about the month for which pupil strength is taken into account for purpose of determining class size and TPR.

Gap between Norms Prescribed and Actual Position

49. The Study has revealed that although the different states have prescribed their own norms for sanctioning teachers for different schools, not all schools have the required number of teachers. Out of 580 sample schools as many as 84 (57 rural, 27 urban) schools were short of teachers. The shortage ranged from 10% to more than 20%. U.P. and Madhya Pradesh have the largest number of schools with teachers short of prescribed norms.

50. It is not only the shortage of teachers which should cause concern, there is a large number of schools which have teachers who are not qualified or not trained as required.

RECOMMENDATIONS

In India the problem of class size and optimum TPR is unique because

both small classes as well as large classes exist. A small class size is generally found in rural, remote areas particularly at primary stage of the school education and a large class size is generally noticeable in urban, crowded, thickly populated areas at primary, middle and secondary stages. Nearly 22% primary schools of the sample have been found with a strength of less than 25 pupils in class I. Another 19% have the class strength of below 40. In class V, 133 (37.36%) schools have class size of less than 25 pupils and another 55 (15%) have the strength of less than 40 pupils in the class. Even for class IX a few schools have class size of less than 25. On the contrary there are also several schools which have class size of more than 50. Therefore, both the situations of very small class size as well as crowded class have to be tackled in such a way that there is no wastage of available scarce resources and yet the national goals of providing educational opportunity for all children and improving the quality of school education are achieved.

Strategies

The following major strategies are recommended:

- I. Rationalisation of existing norms of TPR.
- II. Optimisation of Teacher-Pupil Ratios.

1. Rationalisation of Existing Norms

- (a) Instead of enrolment, attendance of pupils in a class should be the main criteria for sanctioning teachers to a school.
- (b) Average attendance should be reckoned on the basis of attendance counted at least 3 times a year, say, in September, December and March and not just on the basis of attendance in the first month of the year. In the case of hill schools, the months could be September, November & April.
- (c) The practice of not striking off the rolls the names of those students who do not attend any class during the whole of the year should be stopped forthwith. If a student does not put in the required minimum attendance continuously for 3 months his/her name should be removed from the register unless there are some specific reasons which should be recorded in writing.
- (d) Attendance scholarship should be awarded to students who put in cent per cent attendance counted on half yearly basis.
- (e) Special efforts should be made to increase the attendance rate amongst the pupils. Simple innovative techniques and rapport with parents of children who are irregular may be beneficial in

this behalf.

2. (a) The work load of teachers should also be rationalised by fixing uniform norms of work load for different stages of education and different grades of teachers throughout the country.
- (b) Keeping in view the large percentage of teachers who do not put in the number of minimum periods prescribed per week by the States, steps should be taken to ensure that there is fuller utilisation of all teachers who constitute a precious human resource.
- (c) Job charts of teachers and heads of schools should be revised to include, besides teaching work, the functions concerning developmental programmes such as conducting annual census, enrolment drive, establishing rapport with the parents and community, extension work, etc.

3. *Proposed National Norms*

There is a strong need for laying down national norms for provision of teachers to do away with wide variations that exist in this matter from State to State. A set of national norms have, therefore, been proposed separately for primary, middle and high schools for (i) areas other than disadvantaged and sparsely populated areas, and (ii) villages and blocks which have concentration of SC/ST population, or are located in deserts, on high hills or other places which are sparsely populated. These norms should be nationally prescribed so that scarce resources are optimally utilised. The proposed norms were endorsed by a seminar organised in NIEPA which was attended by a large number of officers of Departments of Education from different states and union territories. A summary of these norms is given below:

- (a) All future opening of new schools or upgrading of existing schools needs to be regulated. No new school should be opened without proper school mapping whether in rural or urban areas.
- (b) All States should uniformly have at least 220 working days in a year for all schools.
- (c) For primary schools (classes I to V) the following should be the basis for provision of teachers:
 - One primary teacher: upto 50 pupils on rolls with 40 pupils attending on an average.
 - Two primary teachers: upto 90 pupils on rolls with 75 pupils attending on an average.
 - Three primary teachers: upto 130 pupils on rolls with 110

attending on an average.

- Four primary teachers; upto 170 pupils on rolls with 145 pupils attending on an average.
- Five primary teachers; upto 210 pupils on rolls with 180 attending on an average; and
- For a primary school having over 210 pupils on rolls: One primary teacher per section each of 45 pupils on rolls with at least 36 attending on an average.
- Additional teacher (for physical education) if the number of sections exceeds ten.
- A separate headmaster/headmistress if school has over 500 pupils on rolls.

- (d) For middle schools (classes VI-VIII) the size of a section of a class should normally be 45 on rolls with 36 students attending on an average. Second section may be opened if the number exceeds 60 on rolls, with 50 attending on an average. Additional sections may be opened for every 40 students attending.

Teachers at the rate of 1.5 per section (including a Headmaster/Headmistress) should be provided. While providing teachers, the requirements of the subjects taught should be kept in view. If there are more than seven teachers for classes VI to VIII a separate physical education teacher may be provided.

- (e) Similarly, for high schools, teachers should be provided at the rate of 1.5 teachers per section (all classes taken together) provided that while determining the number of teachers, the minimum number of periods required to be taught by different grades of teachers, such as PGTs and TGTs, will be duly taken note of.

The size of a section of class IX or X should normally be 45 students on rolls, with 40 students attending on an average. For subjects involving practical work, students may be grouped into batches.

- (f) For disadvantaged and sparsely populated areas a relaxation in the norms to the extent of 20% may be made in terms of pupils on rolls and average attendance required.
- (g) Temporary relaxation to similar extent may also be made for primary and middle schools in those blocks where gross enrolment in the case of 6-11 age group is below 60% and that of 11-14 age group is below 30%.

- (h) Specialist teachers for certain subjects like Music, Art, language, Work Experience and Physical Education may be provided depending upon a specified minimum number of students for the school.
- (i) Part-time specialist teachers may be provided where the students' strength does not justify a whole-time appointment. Two or more schools may be combined in a school complex to provide for specialist teachers.

II. Optimisation of TPRs

Apart from rationalisation of norms, various strategies need to be adopted for optimisation of the TPRs. These may include:

1. Increasing enrolment in schools — for that purpose to conduct annual census and enrolment drives particularly of 6-14 age group children and to pay special attention to girls and children belonging to weaker sections. As regards the nutritious mid-day meal programme doubts have been expressed about its utility for increasing enrolment keeping in view the heavy cost of the programme. It has had a mix response in some states which have adopted it. Its implementation in all States throughout the country appears to be difficult for want of large resources it requires. In any case, before it is implemented in other states, proper evaluation of the programme needs to be done.
2. Improving attendance and reducing dropout rate;
3. Adoption of 'no detention' policy for classes I to IV;
4. Emphasis on learning-oriented teaching;
5. Larger use of teaching aids, use of modern technology and innovative methods of teaching;
6. Institution of and revitalisation of school complexes for purposes of micro-level planning, working out joint strategies of annual census and enrolment drives by member schools of a complex, sharing of resources amongst them, making alternative arrangements in place of teachers proceeding on short leave, close monitoring and supervision of teachers' work and exchange of innovations in teaching-learning etc.
7. Effective class room management by teachers and for that purpose to raise the competence of teachers in class room management;
8. Integrating education and work;
9. Evolving norms for opening and upgrading of schools. No new schools should be opened or upgraded without proper school map-

- ping and locational planning;
10. Setting up residential schools in rural areas instead of opening small non-viable schools;
 11. Opening of mobile schools in sparsely populated and difficult areas;
 12. Imparting training in multiple class teaching & appointing stipend/helper/voluntary teachers in single-teacher schools.
 13. Rational decision making regarding creation of posts, appointment of teachers and allocation of funds;
 14. Involvement of community and formation of local school committees;
 15. Minimising transfers of teachers at primary stage;
 16. Adjusting vacations to correspond with agricultural seasons in rural areas;
 17. Reducing curriculum load;
 18. Effective institutional evaluation; and
 19. Effective monitoring and supervision so that the school works for the required minimum number of days in a year and there is fuller utilisation of teachers; also the programmes of UEE and quality improvement of education are duly implemented.

Tackling the question of optimum TPRs is, indeed, a very challenging and difficult task. Through determined and joint efforts of teachers, heads of schools, supervisors, parents, community and the government, it should be possible to break the ice and optimise the scant resources in a developing country like India.

SELECT BIBLIOGRAPHY

Anncook and Herb Mack. *The Head Teacher's Role. Staff Problems* p.32; *Teacher Training* p.36 Macmillan, London-1971.

Adams, Dickey - *Basic Principles of Student Teaching* — 'Managing the Classroom', p. 196, *Directing Pupil Activities*, American Book Company, New York, 1956.

Adaval, S.B. - *Quality of Teachers - Determining the Qualities of a Successful Teacher - Criteria for Teacher Effectiveness*, Amitabh Prakashan, 3 Bank Road, Allahabad, 1979.

Aggarwal, J.C. - *The Progress of Education in Free India (Current Problems of Indian Education) Primary Education - Objectives of Primary Compulsory Education in India*; Arya Book Depot, New Delhi, 1966.

Asiedu Akrofi, K. - *The Living Classroom*, George Allen & Unwin, London, 1981.

Buch, M.B. "Interaction Patterns in Indian Classroom" in M.B. Buch (ED) *Studies in Teaching Behaviour*, M.S. University of Baroda, Baroda, 1975.

Buch, M.B. and Santhanamam, M.R., "Classroom Behaviour of Selected Teachers in Baroda Secondary Schools" in Buch, M.B. and Santhanamam, M.R. (ED) *Communication in Classroom*, CASE, M.S. University, University Press, Baroda, 1970.

Bowley, R.L. *Teaching without Tears, Discipline, Punishment, in the Classroom* - p.7; *Qualities of a Good Teacher* - p.165. *Methods of Learning and Teaching*. Centaur Press, London-1961.

Beryl Ash & Barbara Rapaport. *Skills in the Junior School. Problems of Individual Learning* - p.50 Willmer Brothers & Haram Ltd.; Birkenhead, Great Britain-1960.

Bassett, G.W.; *Innovation in Primary Education, The Nature of Educational Objectives* - p.7. Wiley-Interscience, a division of John Wiley and Sons Ltd., London, New York, 1970.

Benett, N. - *Teaching Styles and Pupil Progress*, London, Open Books, 1976.

Charlotte Epstein. *Classroom Management and Teaching: Persistent Problems and Rational Solutions. Solutions based on Physical Management* - p.1. *Solutions based on Pupil-teacher Communication* - p.69. *Solutions based on Management of Time* - p.45. Reston Publishing Company, INC. Prentice Hall Company, Reston, Virginia - 1979.

Clifford L. Bush & Mildred H. Huebner: *Strategies for Reading in the Elementary Schools - Skills of Reading* - p.37. *Evaluation of Progress in Reading (Accountability)*, p.327. Macmillan Publishing Co., INC; New York, 1979.

Conference on "The Application of Newer Scientific Methods of Learning and Teaching to Selected Major Educational Problems in Developing Countries" - International Cooperation Administration, Washington - D.C., 1961.

Clifford, P. Archer, *Elementary Education in Rural Areas*; The Ronald Press Company, New York, 1958.

Chandler B.J.; Deniel Powell and William R. Hazard. "Education and the New Teacher". Harper and Row Publishers, New York, Hagerstown, San Francisco, London, 1971.

Carl J. Wallen., La Donna, L. Wallen - *Effective Classroom Management*, Allyn and Bacon, Inc. Boston, London, Sydney, 1978.

Choppen, B., - *Review of Meta Analysis in Class Size*, Educational Research, 1980.

Denis Lawton, *An Introduction to Teaching and Learning, Teachers and Pupils* - p.135, *The curriculum* p.27. Hodder and Stoughton, London, 1981.

Dwight L. Goodwin; Thomes J. Coates, *Helping Students Help Themselves - How You Can Put Behaviour Analysis into Action in Your Classroom. Setting the Stage for Effective Learning* - p.12; *Learning New Skills* - p.145; Prentice Hall, Inc; Englewoodchiffs, New Jersey; 1976.

Deale-R.N. *Assessment and Testing in the Secondary School. The Meaning of Marks* - p.106. *Standardizing Marks-analysis of Test Results* p.133. *Assessment in the Secondary School* - p.154. Evans Methuen Educational Ltd. London, 1975.

Deanne Boydell : *The Primary Teacher in Action, Classroom Organisation* - p.45. Open Books Publishing Ltd.; London; 1978.

Dahama, O.P. and Bhatnagar, O.P. *Education and Communication for Development : The Psychology of Learning* - p.163. Oxford and IBH Publishing Co.; Dhawan Printing Works, New Delhi-110064, 1980.

Dearden, R.F. *Problems in Primary Education: Child-centred Education* - p.48; *Teaching & Learning* - p.63; *Curricular Aims and Curricular Integration* - p.33. Routledge and Kegan Paul, London, 1976.

Davies, Ivor K., *The Management of Learning*; McGraw Hill Publishing Co. Ltd. 1971.

David W. Beggs. (ed.) - *Team Teaching, Bold New Venture, What Team Teaching Really is? How Team Teaching Fits into the Elementary Education?* Unified College Press, Inc. Washington, Indiana, 1964.

Derek Rowntree - *Assisting Students. How Shall We Know Them? What is Assessment? How to Assess?* Harper and Row Publishers, New York, 1977.

Donald E.P. Smith - *Educational Psychology Series - A Technology of Reading and Writing*, Vol. 1, 2 & 3. *The Adaptive Class Room*, p. 7 *Making Teaching Methods Adaptive*, p. 269, Academic Press, New York, 1977.

Edmund Amindon; Elizabeth Hunter; *Improving Teaching - The Analysis of Classroom Verbal Interaction; Teaching* - p.1; *Analyzing Verbal Interactions in the Classroom* - p.8; *Motivating* - p.17. Holt, Rinehart

and Winston, INC; New York; 1967.

Evan S.; Henderson. *The Evaluation of In-service Teacher Training, Methodologies of Evaluation* - p.73; *The Use of Questionnaires; The Assessment of Teaching Skills; Self Evaluation* - p.151. Croomhelm Ltd., 2-10, St. John"s Road, London, 1978.

Edward David Allen & Rebecca M. Valette - *Classroom Techniques : Foreign Languages and English as a Second Language. The Teacher and the Course*, p.29 *Classroom Management*. Harcourt Brace, Jovanovich Inc., New York.

Elizabeth, Richardson - *The Teacher, the School and the Task of Management - The Task of Hardship and the Nature of Consultation*, p.149, *Teachers, Governor, Parents and Pupils in a Changing Society*, p. 336, Heinemann Educational Books Ltd., London

Esland, G.M. - '*Teaching and Learning as the Organisation of Knowledge*' - In : Young, M.F.D. (ed.), *Knowledge and Control*, London : Collier Macmillan, 1971.

Educational Research Service : *Class Size : A Summary of Research*. Arlington, V.A. : Educational Research Service. 1978.

Educational Research Service : *Class Size Research : A Critique of Recent Meta-analysis*. Arlington VA : Edu. Research Service, 1980.

Fenwick W. *English; School Organisation and Management; School Climate and School Organisation* - p.125. Charles A. Jones Publishing Company, Worthington, Ohio, 1975.

"*Fifty Teachers to a Classroom*" - By the Committee of Human Resources, *Tapping Human Resources*, The Macmillan Company, New York.

Frank Smith & A.S. Harrison - *Principles of Class Teaching, Initial Problems of Class Teaching*, p.251, *Teaching and Learning, Correction of Written Work, Home Work etc*. ELBS; Macmillan & Company, 1965.

Flanders, N.A. and Amidon, E.J. - *The Role of Teacher in the Classroom A Moral for Understanding and Improving Teacher's Classroom Behavi-*

our, Minneapolis : P.E. Amidon & Associates, 1963.

Filby, N.N., Cohen, L.S. McCutcheon, G & Kyle D.W. *What Happens in Smaller Classes? A Summary Report of a Field Study*. San Francisco, CA : Far West Lab for Edu. Research & Dev. 1980.

Garton Mialext (ed.) *The Child's Right to Education - The Mother Tongue and the Teaching Language*, J.M. Mazaba and Evelyne Nthepe, UNESCO, Paris, 1979.

Gene V.Glass; Leonard S. Cohen; Mary Lee Smith; Nikola N. Fillay. *School Class Size - Research and Policy, Implications for Educational Policy of Research on Class Size*, Beverly Hills, Sage Publications, 1982.

Graham Gibbs - *Teaching Students to Learn* - The Open University Press. A Division of Open University Educational Enterprises Ltd., 12 Cof-feridge Close, Story Startford, England.

Glass, G.V. & Smith, M.C., *Meta Analysis of Research on Class Size and Achievement*. Educational Evaluation and Policy Analysis, 1979.

Glass, G. McGaw, B., & Smith, M.L. *Meta-analysis in Social Research*, Beverly Hills, 1981.

Goodlad, J.I. Classroom Organisation. In C.W. Harris (Ed.) *Encyclopedia of Educational Research*, New York, MacMillan, 1960.

Govt. of India, *Selected Educational Statistics*, 1982-83, Ministry of Education and Culture, 1984.

Govt. of India : Avinashilingam T.S.; *Gandhiji's Experiments in Education, Educational Methods* - p. 71. Ministry of Education, - 1960.

Govt. of India, *Education and National Development*, Report of Education Commission, 1966.

Govt. of India, *Handbook for Teachers of Basic Schools; Evaluation in Basic Schools-Paris, E.A.*; p.47. Ministry of Education and Scientific Research; - 1958.

Herbert R-Kohl. *The Open Classroom - A Practical Guide to A New Way of Teaching. Planning and Lesson Plans* - p. 48. Methuen & Co. Ltd., London; 1970.

Harman, S.; *Plight of Pupils in Schools. Pupils Potentialities* p. 56; *Constraints on Pupils* p. 88. *School Achievements* - p. 126 *Teachers Task* p. 142. DL Publications-Alfred Road, London-1978.

Harold I. Cotler; *Encyclopedia Desk Book of Teaching Ideas and Classroom Activities. Affective Education* - p. 19. Parker Publishing Company, INC, West Nyack. New York - 1977.

Holt, John - *How Children Fail* - Penguin, 1973.

Hoyle, Eric - *The Role of the Teacher*, Routledge and Kegan Paul, 1969.

Howard Lane & Mary Beauchamp - *Human Relations in Teaching. The Dynamics of Helping Children Grow*, Prentice Hall, Education Series, 1955.

IIEP : Raymond F. Lyons and Mervyn W. Pitchard; *Primary School Inspection a Supporting Service for Education, Purpose and Nature of Inspection* - p.12. Paris - 1976.

IIEP : Griffiths, V.L. *The Problems of Rural Education*, Paris, 1968.

Jere. E. Brophy, Carolyn, M. Evertsu. *Learning from Teaching - A Developmental Perspective. The Question of Teacher Effectiveness* - p.1; *Teachers Attitudes and Role Definitions* - p. 39; *Classroom Management* - p. 51. Allyn and Bacon, Inc. Boston, London; 1976.

Jere. E. Brophy; Thomas L. Good. *Teacher-Student Relationships-Causes and Consequences. Individual Differences in Teacher-student Interaction Patterns* - p. 1; *The Influences of the Sex of the Teacher and Student in Classroom Behaviour* - p. 199. Holt, Rinehart and Winston, Inc; New York; 1974.

Joshi, R.N. *Education Elsewhere and Here: A Key to Prosperity. Spot light on Indian Educational Problems* - p.121. Bharatiya Vidya Bhavan, Kulapathi K.M. Munshi Marg, Bombay-7.

Jhangira, N.K.; *Teacher Training and Teacher Effectiveness - An Experiment in Teacher Behaviour*, National Planning House, Delhi, (1979).

James J.; Shields, Jr.; Colin Greer (Ed.) *Foundations of Education, Dissenting Views. Educational Alternatives: Reforming the School System* - p. 137. John Wiley and Sons, INC. New York, 1974.

John E.C. Macbeth - *A Question of Schooling* (ed.), *A Question of Quality*, p. 3. *A Question of Equality*, p. I, Hodder and Stoughton, London, Sydney, 1976.

John Englestone - *Teacher Decision Making in the Classroom - A Collection of Papers - Classroom Based - Teaching Decisions*, p. 8, *How Teachers Decide Pupil's Subject Choice*, p. 170. Routledge & Kegan Paul, London, Boston, 1979.

John Sargent - Society, Schools and Progress in India. *The Existing School and Formal Education System*, p. 119, *Current Problems - II*, p. 160, Pergamon Press, Oxford, London, 1968.

Joseph F. Callahan : Leonard H. Clark - *Teaching in the Elementary School Planning for Competence - Creativity and the Elementary School Teacher*, p. 283, Macmillan Publishing Company, New York, 1977.

Journal of Educational Research & Extension, Published by Sri Rama Krishna Mission Trivandrum. "Instructional Strategy for 'Teaching' and Learning; p. 1, Vol. 18, No. II, 1981.

Jackson, P.W. *Life in Classrooms*. New York Holt, Rinehart & Winston, 1968.

Kleinman, G., *General Science Teachers Question, Pupil Teacher Behaviour and Pupil's Understanding of Science*, Unpublished doctoral dissertation, University of Virginia, Charlottesville, 1964.

Keith Johnson and Keith Morrow, (ed.) *Communication in the Classroom*, Longman Group Ltd., Longman House, Burnt Mill, Harlow, Essex, 1981.

Kementerian Pelajaran - *Handbook of Suggestions for Teachers in Pri-*

mary Schools - *General Classroom Procedure*, p.57, Oxford University Press, Kualalumpur, 1960.

Kenneth E. Elile - *The Craft of Teaching*, Jossey Bass Publishers, San Francisco, Washington, London, 1977.

Kemball Wiles - *Teaching for Better Schools - What is an Efficient Teaching-Learning Situation?* Englewood Cliffs, N.J. Prentice Hall Inc., 1952.

Karlheinz Ingan Kamp (Ed.) *Developments in Educational Testing, Tests for the Primary Schools* - p.18, University of London Press Ltd. 1968.

Kedi, *Educational Reforms*, Korean Educational Development Institute, Republic of Korea, Seoul, 1985.

Kedi, *Korean Education 2000*, Korean Educational Development Institute, Republic of Korea, Seoul, 1985.

Larsen L.S., Factsheet Denmark, *Compulsory Education in Denmark*, Royal Danish Ministry of Foreign Affairs, Copenhagen, 1984.

Larry W. Hughes & Gerald C. Ubben. *The Elementary Principal's Handbook - A Guide to Effective Action Grouping Students* - p. 10. Allyn and Bacon, Inc. 470 Atlantic Avenue, Boston, Massachusetts. 1978.

Leonard H. Clark & Irving S. Starr. *Secondary School Teaching Methods. Planning for Teaching* - p. 59; *Pupil-Teacher Planning* - p. 59. The Macmillan Company, New York, 1959.

Lawrence A. Fink; Raymond, A and Ducharme, Jr. *Crisis in Urban Education*, Xerox College Publishing, 275 Wyman Street, Waltham, Massachusetts-02154; 1971.

Lowis Malassis, *The Rural World Education and Development. Integration of the Rural World into the Overall Educational Systems* - p. 75. The UNESCO Press-Paris, 1976.

Lissauer, A. - *Class Sizes to be Pegged : Times Educational Supplement*, March 12, 1976.

Lafleur, C.D., Sumner, R.J. & Witton. E., *Class Size Survey*, Canberra; Australian Government Publishing Service, 1974.

Muriel Gerhard. *Effective Teaching Strategies with the Behavioural Outcomes Approach. Analyzing the Teaching-thinking-learning Process* - p. 17; *The Thinking Processes as Conceptual Tools for Pupils and Teachers* - p. 95. Parker Publishing Company, Inc, New. York, 1971.

Maxwingo, G. & Raleigh Schorling. *Elementary School Student Teaching; Teacher and Pupils Plan Together* - p. 119; *Three Important Teaching Skills* - p. 205. McGraw - Hill Book Company, Inc. New York; 1950.

MacBeath, E.C. (Ed) *A Question of Schooling Effective Management* - p. 69 (Case study); *Resources of Learning* - p. 95, (case study); Hodder and Stoughton, London, 1976.

Michael Bassy; *Practical Classroom Organisation in the Primary School. Classroom Control* - p. 55; *Classroom skills* - p. 71; *Analysing and Evaluating One's Own Teaching* - p. 89. Ward Lock. Educational, London; 1978.

Murthy, K.S. (Ed); *General Education Reconsidered, Teaching and Evaluation* - p. 113, Asia Publishing House-London, 1960.

Maurie Hillson; *Change and Innovation in Elementary School Organisation. The Organisation and Reorganisation of the Elementary School* - p. 1. Holt, Rinehart and Winston, INC. New York, 1965.

Maurice Craft - *Family, Class & Education - A Reader, Social Class Factors in Educational Achievement*, P. 31, *The Influence of Home*, P. 72, Longman Group Ltd., London, 1970.

Morrison, A. and McIntyre, D. - *Teachers and Teaching*, Penguin, 1969.

Mukerji, S.N. - *In India and Tomorrow - Primary Education*, p, 62 (a) *Universalisation of Primary Education Tasks Ahead - Secondary Education*, p. 115 - *Problems & Measures for Reforms in Secondary Education*, Acharya Book Depot, Baroda, 1964.

NCERT. Eleventh National Seminar on Elementary Education, New Delhi, 1972.

NCERT : *Educational Studies and Investigations - A Survey of the Standard of Living of Primary Teachers of Sholpur City*, in Vol. 1, New Delhi, 1962.

NCERT : Chickermane, D.N., *"Teaching in Single-Teacher Schools"*,

NCERT : *Fourth All-India Educational Survey*, 1980.

Norman Lawrie and Hellen Veitch. *Timetabling and Organisation in Secondary Schools. Planning the Organisation of Classes* - p. 19. NFER Publishing Co. Ltd.; Thames Avenue, Windsor, Berks.

Naik. J.P., *"Elementary Education in India"*. Allied Publishers Private Ltd. 13/14, Asaf Ali Road, New Delhi - 110001 (1975).

Narasimha Reddy, K., *Students, Teachers and Parents : Interactions in Educational Settings*, Ajanta Publications, Delhi, 1984.

Olive C. Sampson; *Remedial Education, How It All Began* - p. 3. *The Effects of Remedial Education* - p.3. The Skills of the Remedial Teacher -p. 38. Routledge & Kegan Paul, London; 1975.

Oad, L.K., Singh R.P., Ruhela S.P. - *Perspective of Indian Education*.

OECD; *Training, Recruitment and Utilisation of Teachers in Primary and Secondary Education. Optimum Utilisation of Teachers and the Improvement of Teaching Efficiency* - p. 343. Paris-16; 1972.

OECD - *Creativity of the School, Conclusion of a Programme of Enquiry. "The Creative School, p. 16", "The Influence of the School Environment, p. 26"*.

OECD : Pidgeon, D. - *"Class Size As a Factor of Pupil Performance, New Patterns of Teacher Education and Tasks : General Analysis"*, Paris, 1974.

Ozga J.T. & M.A. Lawn - *Teachers Professionalism & Class (A Study of Organised Teachers)"Organised Teachers, A Review of the Literature*, p.

1", *Teachers and Class* p. 39", The Falmer Press, London, 1981.

Passi, B.K. *Becoming Better Teacher-Micro Teaching Approach, Micro Teaching. Skill Based Approach* - p. 1 *Skill of Introducing a Lesson* - p. 77. *Skill of Increasing Pupil Participation* - p. 245, Sahitya Mudranalaya, Kankaria Road, Ahmedabad, 1976.

Paulwidlake (Ed); *Remedial Education: Programmes and Progress. Remedial Education in Primary Schools* - p. 128 *Evaluation of Remedial Education* - p. 89. Longman Group Limited, London - 1977.

Pattanayak, D.P. *Multilingualism and Mother-Tongue Education. Mother Tongue - An Indian Context*, p.47, Oxford University Press, Delhi, 1981.

Paul Grambard & Harry Rsenberg - *Classrooms that Work, Children can Change Schools : Behavioural Approaches at Work*. E.P. Dutta & Co. Inc., New York.

Paul Wildlake - *Remedial Education Programme and Progress*, Lowe & Brydone Ltd. Norfolk, 1977.

Peters, R.S. - *Education & the Education of Teachers*, Routledge & Kegan Paul, London 1977.

Payne, G.C.F. & Cuff E.C. (ed.) *Doing Teaching. The Practical Management of Classrooms*, Batsford Academic and Educational Ltd., London, 1982.

Payne: *Doing Teaching : Practical Management of Classrooms*, Washington, D.C.; Today's Education, 1976.

Phillip Hills - *Teaching & Learning as a Communication Process*, Croom Helm Ltd., 2-10, St. John's Road, London, 1979.

Plowden Report : *Children and Their Primary Schools*, London : HMSO, 1967.

Rajendra Pal Singh, Zakir Hussain : - *Dynamics of Indigeneous Education. School and the Child*, p.23, Sterling Publishers Pvt. Ltd. Jullunder City, 1968.

Ranjit Singh, T.S. Sohal - *Teaching and Communication in Extension Education*. "Elements of Extension Teaching-Learning", p.21, "Effective Extension Teaching Learning Process", p.29, Sirjana Press, New Delhi, 1974.

Richard C. Anderson and J. Spiro, William E., Montague - *Schooling and the Acquisition of Knowledge*, Lawrence Elbaum Associates, Hillsdale, New Jersey, 1977.

Ron Glatter, *Towards an Agenda for Educational Management*, in *Educational Management and Administration*, Journal of the British Educational Management and Administration Society, Vol. 15 No.1, Spring 1987, London.

Ross, A.M. and Twiner D. Joh., (Ed) *True Teacher in a Changing Society*, Manchester University Press, Oxford, 1974.

SING, L.P. (1975) *Classroom Interaction Micro-teaching and Modified Teacher Behaviour*. M.B. Buch (Ed) *Studies in Teacher Behaviour*, CASE, Baroda.

Spaulding, R.L. *Achievement, Creativity and Self-concept Correlates of Teacher Pupil Transaction in Elementary Schools*, Hempstead, New York, Hofstra University, (U.S. Office of Education, Co-operative research project, No. 1332) 1965.

Susan Manchak,; Steven R. Manchak. *Pupil/ Parent/ Teacher Situations and how to Handle them. Insights into Classroom Performance Difficulties* - p. 15. *Effectively Dealing with Behaviour in the Classroom* - p. 30 Parker Publishing Company, INC. New York; 1980.

Smith; Krouse; Atkinson; *The Educator's Encyclopedia*. *Classsize* - p. 57. Prentice Hall, INC, Englewood cliffs, N.J. - 1961.

Seymour E. Harris - *More Resources for Education, Potential Resources for Education* - p. 44. Harper & Brothers 1960.

Sandford W. Reitman, - *Foundations of Education for Prospective Teachers. The Historic Development of Schools*, p. 84, Allyn and Bacon Inc., Boston, London, 1977.

Saini, S.K. - *Development of Education in India*, (Primary Education) Cosmo Publication, Delhi, 1980.

Shiley, F. Heck; Fon P. Cobes, *All the Classroom is a Stage* - Pergamon Press, New York, Paris, 1978.

Seymour E. Harris - *More Resources for Education* - Harper & Brothers, New York, 1960.

Singh, R.P. - *The Indian Teacher*, National Publishing House, Delhi, 1969.

The Education Review - *Teachers Role in Pupils Mental Development*, p. 145, *Time Management*, p. 185, Vol. XXXVIII, No. 9, September, 1982.

The Junior School Project, *A Summary of the Main Report*, Inner London Education Authority, Research and Statistics Branch, London, 1986.

Thomas Jackson Woofter - *Teaching in Rural Schools*, Houghton Mifflin Co., Boston, 1917

Thomas J. Sergiovanni, David L. Elliott - *Educational & Organisational Leadership in Elementary Schools. "Working with Teachers & Parents"*, P. 117, Prentice Hall Inc., Englewood, 1975.

UNESCO: *Statistical Year Book*, 1984, Paris, 1984.

UNESCO: *A Method of Reducing Classroom Requirements in Primary Schools in Asia*, Bangkok, 1985.

UNESCO: *Multiple Class Teaching and Education of Disadvantaged Groups*, National Studies of India, Sri Lanka, Philippines and Republic of Korea, Bangkok, 1982.

UNESCO: *Shortage of Primary Teachers* - 25th International Conference on Public Education. *Existence of Shortage* - p. 11; *Causes of the Shortage* - p. 19; *Steps Taken to Meet the Shortage* - p. 30 Paris - 1963.

UNESCO, Herber J. Abraham. *World Problems in the Classroom. The Problem of Development* - p. 95; *Population* - p. 95. Paris, 1973.

UNESCO, *Education in Rural Environment*, Paris - 1974.

UNESCO : Paris, E.A.; *Studies in Asian Education, Primary Teacher Training in Asia. Improvement of the Methods of Evaluation* - p. 185. Regional Office for Education in Asia, Bangkok, 1963.

UNESCO: Richard Greenough; Children's Progress - Stories of UNESCO - Unicef Programmes in Education. *Practical Approaches to Primary Education* - 15. *Meeting the Lack of Qualified Teacher, Lebanon* - p. 40. Paris-7, 1968.

Uday Shankar - *Progressive Education, About the Teacher, His Qualities*, p. 21-30. The Indian Education, Ambala Cantt, 1978.

Vasistha, K.K.; "*Teacher Education in India*" Concept Publishing Company, H-13, Bali Nagar, New Delhi, 1979.

Venkata Subramaniam, K; *Wastage in Primary Education. The Incidence of Wastage* - p. 4. *Causes of Wastage and Special Studies on Wastage* - p. 39. Orient Longman Ltd. New Delhi, 1978.

William L. Carter; Carlw Hansen; Margaret G. Mckim; *Learning to Teach in the Elementary School. Evaluating and Reporting Pupil Progress* - p. 414. The Macmillan Company, New York; 1959.

Watson Cicely, Saeed Quazi and Joy Poyntz. *The Secondary Teacher*. An Informal Publication of the Department of Educational Planning, OISE, 1972.

Watson Cicely, Saeed Quazi and Russ Jones. *The Elementary Teacher*. An Informal Publication of the Department of Education Planning, OISE, 1972

William M. Alexander. *Effective Teaching in Secondary Schools. Organising the Classroom for Learning* - p. 71. *The Teachers Role in Planning and Improving Instruction* - p. 429. Holt Rinehart and Winston, New York, 1960.

William Taylor. *The Management of Innovation in the Large Secondary School Heading for Change. Problems of Size and Change* - p. 11. *Pupil*

Participation - p. 100; *Planning and Evaluation* - p. 116. Routledge & Kegan Paul, London; 1969.

William Taylor - *Research and Reform in Teacher Education* - Council of Europe, NFER, Publishing Company, 1978.

Willing & Others - *Schools and Our Democratic Society, The Teachers Role in School Policy, Organisation and Administration*, p. 288. Harper and Brothers, New York, 1951.

World Yearbook of Education 1986; *The Management of Schools*, Ed. Eric Hoyle and Agnes McMahon, Kogan Page, London, 1986.

Yadava, Ram Autar - *Effect of Classroom Questioning Behaviour Training on General Teaching Competence of Student Teachers and Pupil Achievement* Ph.D. Thesis, Meerut University, Meerut, 1981.

APPENDIX

DISTRICTS SELECTED FOR THE STUDY

States	NSS Regions	Districts Selected
1. ANDHRA PRADESH	Coastal Inland Northern Inland Southern	1. West Godavari 2. Hyderabad 3. Kurnool
2. ASSAM	Plains Hills	4. Kamrup 5. North Cachar Hills
3. BIHAR	Southern Northern Central	6. Santhal Paraganas 7. Muzaffarpur 8. Patna
4. GUJARAT	Plains Saurashtra	9. Surat 10. Bhavanagar
5. HARYANA	Eastern Western	11. Karnal 12. Jind
6. HIMACHAL PRADESH	Himachal Pradesh	13. Chamba
7. JAMMU AND KASHMIR	Mountainous Outer Hills Jhelum Valley	14. Jammu 15. Punch 16. Srinagar
8. KARNATAKA	Coastal and Ghats Inland Southern Inland Northern	17. South Kanara (Mangalore) 19. Bangalore 20. Bijapur
9. KERALA	Northern Southern	21. Malappuram 22. Trichur

10. MADHYA PRADESH	Eastern Inland Eastern Inland Western Western Northern	23. Balaghat 24. Jabalpur 25. Vidisha 26. Rajgarh 27. Bhind
11. MAHARASHTRA	Coastal Inland Western Inland Northern Inland Central Inland Southern Eastern	28. Kolaba (Rajgarh-Alibagh) 29. Poona 30. Nasik 31. Aurangabad 32. Amravati 33. Bhandara
12. MANIPUR	Manipur	34. Manipur Central
13. MEGHALAYA	Meghalaya	35. United Khasi
14. ORISSA	Coastal Southern Northern	36. Cuttack 37. Koraput 38. Sambalpur
15. PUNJAB	Northern Southern	39. Ropar 40. Patiala
16. RAJASTHAN	Western Northern-Eastern Southern South-Eastern	41. Jodhpur 42. Alwar 43. Dungarpur 44. Chittorgarh
17. TAMIL NADU	Coastal North Coastal South Inland	45. North Arcot (Vellore) 46. Thanjavur 47. Coimbatore
18. TRIPURA	Tripura	48. West Tripura
19. UTTAR PRADESH	Himalaya Western Central Eastern Southern	49. Nainital 50. Muzaffarnagar 51. Lucknow 52. Gonda 53. Banda

20. WEST BENGAL	Himalayan	54. Darjeeling
	Eastern Plains	55. Birbhum
	Central Plains	56. Calcutta
	Western Plains	57. Midnapore
21. DELHI	Delhi	58. Delhi (South)

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